

MOTOR AGE

C. 2



SEPTEMBER 1948 • A CHILTON PUBLICATION



Spot Check brings in new customers!

Spot Check makes old customers
better customers!

Spot Check insures a steady flow
of profitable business
into your shop, at all times!



HASTINGS METHOD

Hastings Spot Check campaign reaches out and interests people who need *all kinds* of repair service—and pulls them into your shop.

And the Hastings Spot Check plans are complete, easy to use. Take very little of your time. Get big results.

If you don't know all about Spot Check, it will

pay you to talk with your Hastings Jobber now. He'll tell you about the excellent results other repairmen are getting—and show you how you can put Spot Check to work for you. Don't wait—act now.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN
HASTINGS LTD., TORONTO
U. S. PAT. 2,148,997

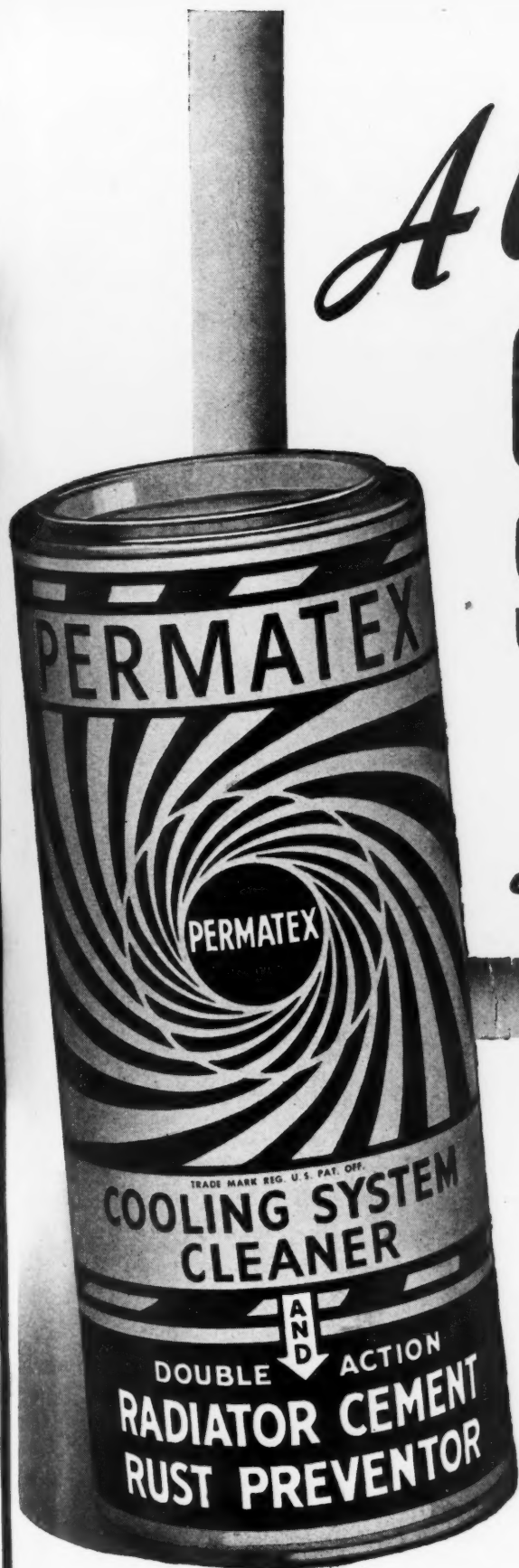
HASTINGS STEEL-VENT PISTON RINGS

MOTOR

A Complete

COOLING SYSTEM SERVICE

In one package



Three Products In One Package.

Nothing Else To Buy.

- Ingredients in upper compartment remove rust, scale, grease and slime from Cooling System in one operation.
- Ingredients in lower compartment seal leaks . . .
- Also prevent reformation of rust.

A non-acid product that is non-poisonous, non-corrosive and non-injurious to hands, paint, rubber or metal parts.

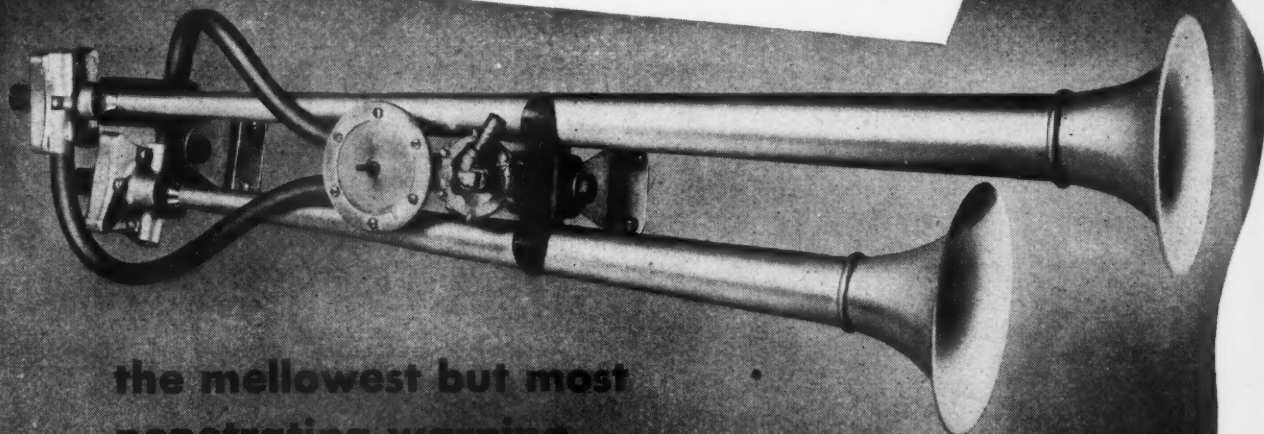
Needs no neutralizer or inhibitor.

More Detailed Information on Request.

Order Through Your Auto Supply House.

PERMATEX COMPANY, INC. BROOKLYN 29, N. Y.

*Back Again
for you to SELL*



the mellowest but most
penetrating warning
signal on the road



Model AV-20
for under hood mounting

Claireon

Trico's twin vacuum trumpets for ALL cars, trucks and buses



\$22.50

complete

Including new double
capacity Reservac, sup-
plying reserve power for
Claireon AND Windshield
Wipers.

● The Trico Claireon directionally beams its distinctive penetrating tone straight forward — at least a full half mile. Its courteous but commanding warning "gets through" to the cab-protected drivers of trucks, the glass-enclosed drivers of passenger cars, up ahead.

Models for outside or under hood mounting. Easily installed. No wiring or changing of the present horns is necessary. Operates by an ivory-tipped chromium-plated finger tip control on the steering column. Equipment includes complete pre-assembled control system and new double capacity reserve vacuum tank with all necessary installation fittings. Order NOW from your jobber.



Trico Products Corporation, Buffalo 3, N. Y.

Claireon Trumpets

Vacuum-operated . . . no drain on battery



It's like something out of a story book — the way the new Blue Streak distributor head came to be. As if a service man made a wish, and presto! Blue Streak answered it.

The answer is in the new material known as Melamine. There never has been — and there is no other insulating material in use today on distributors — which has the tremendous arc resistance that Melamine has.

When a spark flashes across the wet surface of an ordinary distributor head, it soon burns and carbonizes a

path on the surface. This carbonized path then becomes a permanent conductor for the spark, and the head must be discarded. However, when a spark flashes across the wet surface of a Blue Streak Melamine distributor head, there is no burning — no destructive carbonizing.

These heads are another Blue Streak "first" . . . another safeguard for your reputation.

Your jobber has the new Blue Streak distributor heads with Melamine insulation — try one on your next order.

*better your business...buy **Blue Streak***

STANDARD MOTOR PRODUCTS, INC., LONG ISLAND CITY 1, NEW YORK

MOTOR AGE, SEPTEMBER, 1948

3

MOTOR AGE, Vol. LXVII, No. 10. Published monthly by Chilton Co., Chestnut & 56th Sts., Phila. 39, Pa. Entered as Second-Class Matter December 27, 1935, at the Post Office at Philadelphia, Pa.; Under the Act of Congress of March 3, 1879. In case of Non-Delivery Return Postage Guaranteed. Subscription price: United States, Mexico, United States Possessions, and all Latin-American countries, \$3.00 per year. Canadian and foreign, \$5.00 per year; single copies, 40 cents.

REAP A "GOLDEN HARVEST" . . .



DELCO BATTERY

*"As good as
GOLD program"*

Here's your golden opportunity . . . a hard-hitting, carefully planned Delco Battery Program that will help you sell more Delco batteries. It gives you the profit-boosting sales ammunition you need to take advantage of DELCO BATTERY LEADERSHIP as the *Number One* original equipment battery. Delco batteries are *used on more new cars than any other make*. Delco batteries have the *biggest ready-made market*. And now Delco batteries bring you the *top sales program* of the year. It's *AS GOOD AS GOLD . . . for you!*



AS GOOD AS GOLD Sales Support for America's Number One Battery!

NATIONAL ADVERTISING to build prestige . . . DISPLAY SIGNS to identify you as a top battery dealer . . . WINDOW STREAMERS to "bring 'em in" . . . DIRECT MAIL to boost business . . . NEWSPAPER ADVERTISEMENTS to stimulate sales . . . DISPLAY STANDS to get "on the spot" action . . . OTHER SALES HELPS to make your Delco battery sales opportunities AS GOOD AS GOLD!



Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

DELCO BATTERIES—A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

WHEREVER WHEELS TURN OR PROPELLERS SPIN

"Man...!"



The
Original Equipment
Line

!What a battery!"



F. H. NIEMANN
Auto-Electric Service
New Ulm, Minn.

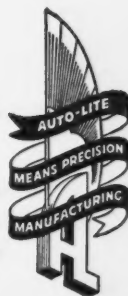


A. C. REINHARD
Reinhard Brothers Co.
Minneapolis, Minn.

"'Sta-ful has given our battery business a shot in the arm just when it was needed. Car owners have been looking for a battery that doesn't go dry the first time someone skips a water check. It's easy to demonstrate. Sta-ful really stays full longer and you get a sale and extra profit QUICK.' This statement of New Ulm dealer F. H. Niemann is typical of the way our dealers praise the Auto-Lite Sta-ful Battery." A. C. Reinhard, Reinhard Brothers Co., Minneapolis, Minn.

HERE'S WHAT Sta-ful DOES FOR YOU

- 1 Gives you a real sales leader . . . a battery that needs water only 3 times a year in normal car use.
- 2 Turns in a sweet profit on every sale.
- 3 Reduces time and bother required for checking and servicing batteries.
- 4 Wins friends, boosts sales all along the line because the Sta-ful principle helps end a major cause of battery grief and failure.



**A BIG HIT!
FOR BIG PROFITS!
IN A BIG
MARKET!**

NEW

HARRISON

HEATERS and DEFROSTERS

**IMPROVED IN DESIGN AND CAPACITY
SIMPLIFIED FOR EASY INSTALLATION
PRICED FOR SURE SALES**

Here is a line of heaters and defrosters that is *complete*—to cover a wide range of car and truck requirements.

Here are units improved in appearance, in heat output, and in ease of installing.

Here is a volume line in a huge market, fitting practically all cars built since 1940.

And here is the line that is priced lower, to capture the market and swell your profits.



NEW COMBINATION SUPER DASH HEATER-DEFROSTER

This unit has everything—as a heater, as a defroster, as a sure-fire money-maker for dealers—with an all-copper tube and center type core, the largest capacity motor we have ever put in a heater, an 8-inch propeller fan, and larger defroster take-off tubes.



DEFROSTER

For use with an underseat heater. Easily installed on the dash. Circular heater core, double outlet, powerful motor. Heat output is nearly as great as that of a small car heater.

ADVERTISING AND POINT-OF-SALE HELPS

To help you increase your heater sales, a complete merchandising program—including colorful counter displays, window streamers, consumer folders and newspaper mats—is available. Call your United Motors distributor and get the details on the fast-moving Harrison line.



**HARRISON HEATERS
A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS**



HARRISON

**HARRISON RADIATOR DIVISION
GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK**



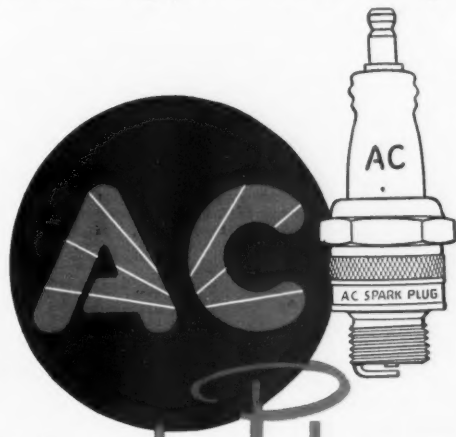
SATURDAY EVENING POST

COLLIER'S

POPULAR SCIENCE

**Laid in
the laps of
7,640,755
national magazine
readers!**

7,640,775 people will read about AC's patented insulator this month, in this powerful national ad. Such advertising generates buying interest. That's your opportunity. Be sure you're ready for the fall tune-up season by displaying your AC Service Sign and maintaining your stock of AC Spark Plugs.



Spark Plugs

BE A NATIONAL
ADVERTISER



DISPLAY
THIS SIGN

AC SPARK PLUG DIVISION
GENERAL MOTORS CORPORATION



ME and POLLY

(My not so Silent Partner)

Reading time:
1 minute, 36 seconds.

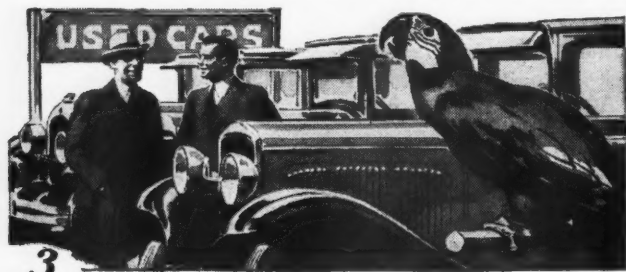


1 "As far back as I remember the ocean had its fatal lure for me. When I was twelve I went to sea—on the great lakes—on a big freighter, as a helper in the engine room.

"The Engineer was a fresh-water salt if there ever was one. He even had a pet parrot. When he was all greased up with Polly on his shoulder he looked like a Pirate of Penzance.

"For hours the three of us would watch the big shiny engine pistons doing their work, and the engineer would explain the mystery of their drive and power. When he stopped for breath Polly would chime in with a little lecture of her own. We loved that parrot.

"When I quit the lakes I had a marine engi-



3 rigged up an office in my yard, put up a sign. With people always asking about my parrot I moved Polly and her cage right into the office and there she stayed,—drumming up trade and supplying entertainment.

"The rest of the story is quick and easy enough to tell, but full of hard work and also the fun of dealing with lots of people. I learned a lot about making, selling and fixing automobiles. The only real tragedy came when Polly, my pal and partner, died. She ate something that disagreed with her.

"Finally when I thought I was ready for the big leagues I got all dressed up one day and went to see the top executives of De Soto, my favorite of all cars. I guess I got a pretty high mark on the examination they gave me. In a month I was notified that I was now an official De Soto-Plymouth dealer.

"That was fifteen years ago. No miracles have happened but I've done what I wanted to do. I wanted to be free to work as hard and as long as I pleased. I wanted to pay the

neer's license of my own. I didn't lose a minute getting a job on engines ashore, and in our town that meant just one thing,—automobiles. I fixed them, I sold them, I even helped make them in the factories.

"Then came my marriage to a lovely bride and, from her I got a pet parrot of my own as a wedding gift,—to remind me of my sea-going days. That bird said, 'Good morning' to me every morning and 'Good night' every night. She kept my wife company all day while I was in the factory.

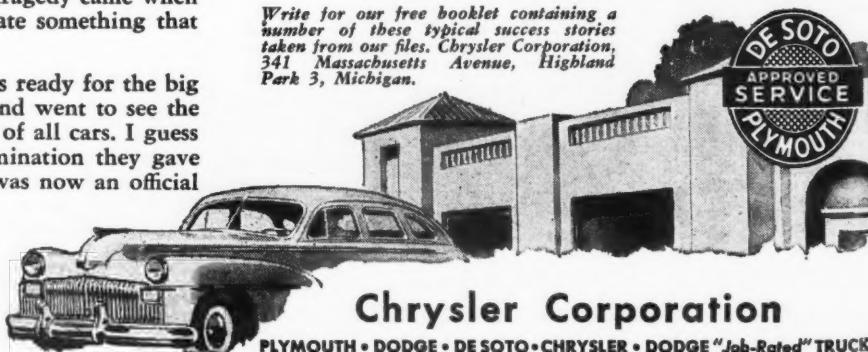
"My first move entirely on my own came right at home. I bought some good used cars with my savings,



4 effort price of real success. And I wanted the real rewards.

"You'd never recognize my De Soto-Plymouth place now, it's grown so big and handsome. But if you come around some day you'll get an unusual greeting. That's because another Polly is sitting in our front office, with a cheery word of 'w-e-l-c-o-m-e' for everyone."

Write for our free booklet containing a number of these typical success stories taken from our files. Chrysler Corporation, 341 Massachusetts Avenue, Highland Park 3, Michigan.



Chrysler Corporation

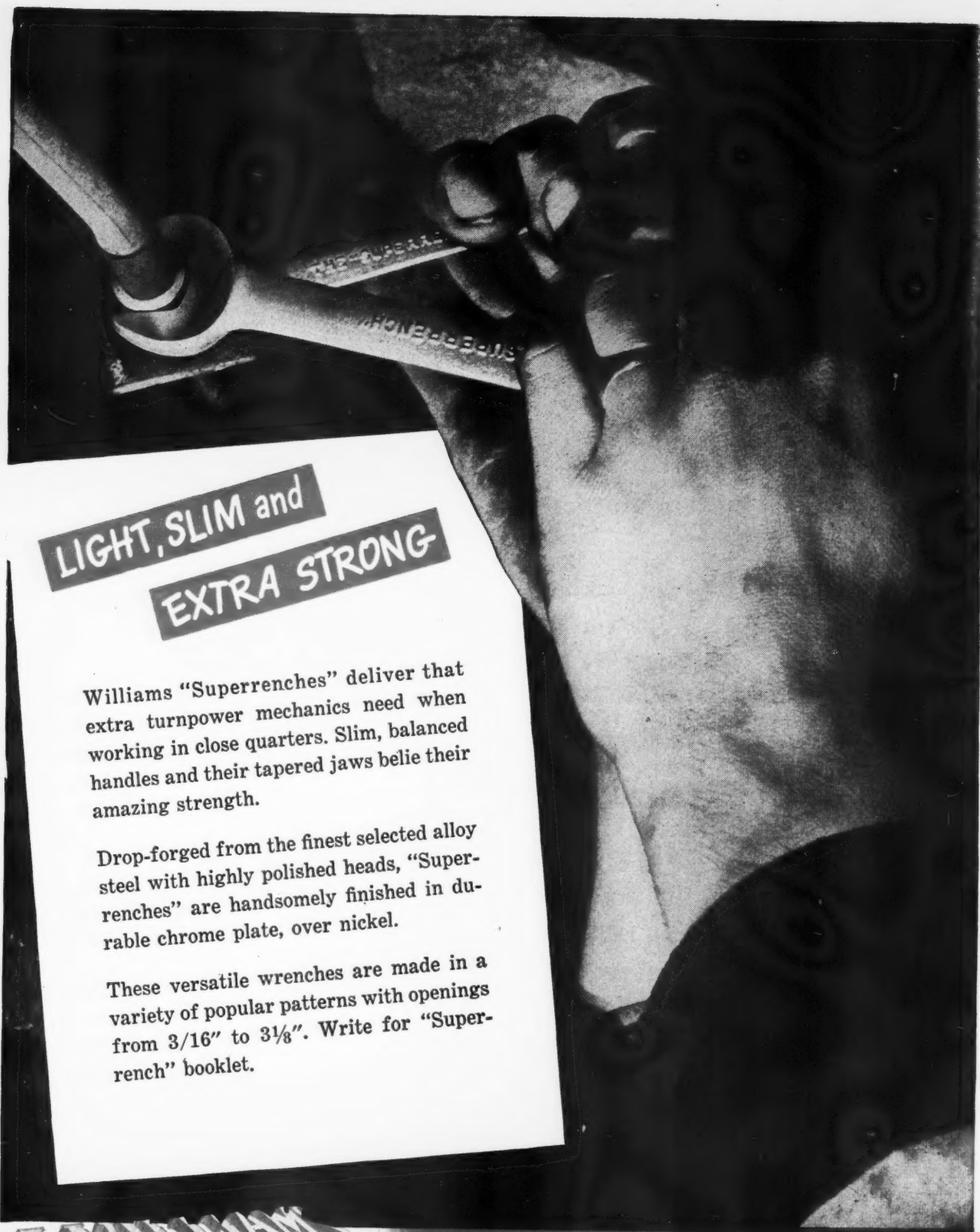
PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS



YOUR CUSTOMERS expect their cars to deliver top performance after a tune-up job. To make sure that their cars are running their best, set the timing to take full advantage of the high antiknock quality of "Ethyl" gasoline. This is one sure way of keeping your customers happy. Ethyl Corporation, New York 17, N. Y.



Products sold under the "ETHYL" trade-mark — Antiknock Compound...Detergent Cleaner...Salt Cake...Ethylene Dichloride...Sodium Metallic...Chlorine (liquid)...Oil Soluble Dye



**LIGHT, SLIM and
EXTRA STRONG**

Williams "Superrenches" deliver that extra turnpower mechanics need when working in close quarters. Slim, balanced handles and their tapered jaws belie their amazing strength.

Drop-forged from the finest selected alloy steel with highly polished heads, "Superrenches" are handsomely finished in durable chrome plate, over nickel.

These versatile wrenches are made in a variety of popular patterns with openings from 3/16" to 3 1/8". Write for "Superrench" booklet.



OPEN END, BOX, ADJUSTABLE & RATCHET WRENCHES, DETACHABLE SOCKETS & SETS, IMPACT SOCKETS, TOOL HOLDERS, LATHE DOGS, "C" CLAMPS, CHAIN PIPE TONGS & VISES, FLANGE JACKS, PLIERS, SCREWDRIVERS, PUNCHES & CHISELS, SOFT FACED "NUPLAFLEX" TIPPED HAMMERS, HOIST HOOKS, EYE BOLTS, ROD ENDS, CRANK & BALANCE HANDLES, THUMB SCREWS & NUTS.

J. H. WILLIAMS & CO., BUFFALO 7, N. Y. *Distributors Everywhere*



Service...
brings 'em back

AIR HOSE
COUPLING

NO. 37 SAND BLAST
CLEANER

NO. 82
JET OILER

HANSEN COUPLINGS help you give better service

Yes, service that brings customers back in these days of stiff competition must be better service. And to give better service you must use superior equipment—the right equipment to do the job thoroughly, in less time. ♦ **Hansen Automotive Couplings** assure quick connection and disconnection of air lines—by slight movement of socket sleeve. Positive shut-off when plug locks in socket. Grease guns, spray cleaners, car lifts—all work better with Hansen Automotive Couplings. ♦ **Hansen Jet Oiler** sends a solid stream of light oil right where you want it, when you press the plunger. Balanced design for easy movement. Heavily plated, one quart container. ♦ **Hansen Sand Blast Cleaner** removes carbon, paint, and rust, quickly and easily. Cleans all metal surfaces ready for welding, brazing, painting, or soldering. Simple to operate. Hardened steel tip. Disconnect blow gun for blowing air only. *Write for Automotive Catalog No. 101.*

HANSEN REPRESENTATIVES

Northern Cal., Nevada . . . H. E. Linney
Company, Oakland, California
Michigan . . . William H. Nash Company,
Detroit, Michigan
Indiana, Wisconsin . . . Neil Engineering
Company, Ft. Wayne, Indiana
Northern Illinois, Eastern Iowa: Walter
Norris Engineering Co., Chicago, Ill.
Northern Ohio: F. & W. Ursem Company,
Cleveland, Ohio
New England States . . . A. D. Geiger,
Belmont, Massachusetts
Southern Ohio, W. Va., Ky.: Steinhagen
Airline Products, Dayton, Ohio
Eastern, Southern States . . .
B-R Engineering Co., Baltimore, Md.
Colorado, New Mexico, Utah, Wyoming:
E. C. Wild Co., Denver, Colorado
Southwest Territory . . . C. C. Brownfield,
Dallas, Texas
Arizona, So. California . . . Burklyn
Company, Los Angeles, California
Idaho, Oregon, Washington . . . Jack J.
Kolberg, Seattle, Washington
Central Western States . . . John Henry
Foster Company, St. Louis, Missouri
Minneapolis, Minnesota
IN CANADA
Province of Ontario . . . John Best
Associates, Toronto, Ontario
Eastern Canada . . . Cowper Company
Ltd., Montreal, Quebec

QUICK CONNECTIVE



FLUID LINE COUPLINGS . . .

THE HANSEN

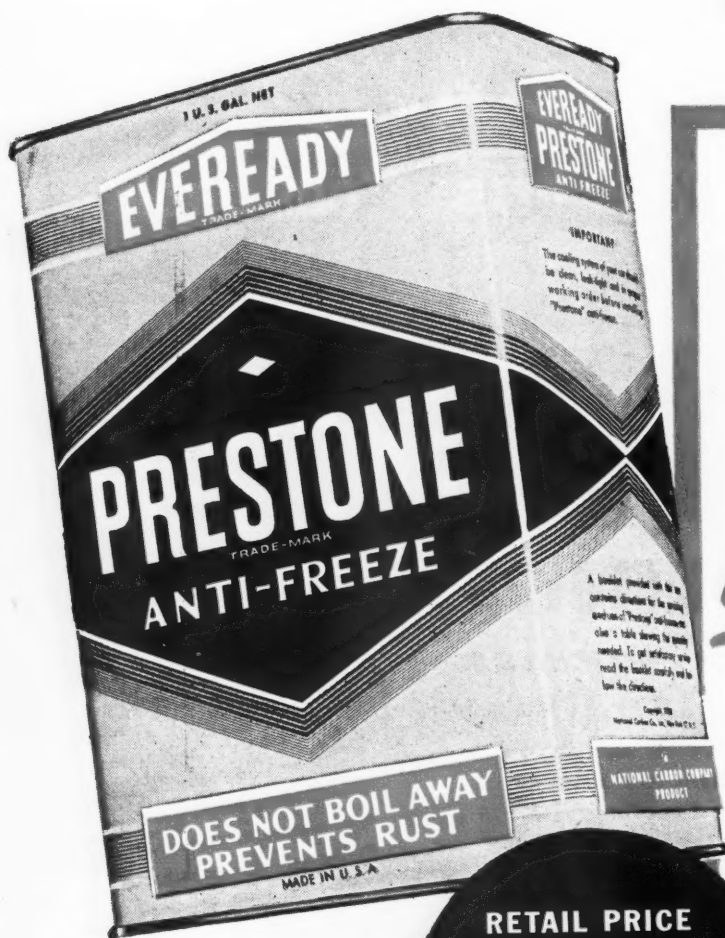
MANUFACTURING COMPANY

4031 WEST 150th STREET

CLEVELAND 11, OHIO

A New Inhibitor!

**Now America's Number 1 Anti-Freeze
is better than ever!**



EXTRA MARGIN OF SAFETY!

"Prestone" brand anti-freeze has been the leader in the field for over 21 years! Now "Prestone" anti-freeze adds a new, *heavy-duty*, rust and foam inhibitor that gives even greater protection — lasts longer — gives an *extra* margin of safety under toughest driving conditions!

FOR 1948...

**A record supply of "Prestone"
Anti-Freeze...but still
probably not enough!**

Frankly, there still probably won't be enough "Prestone" anti-freeze to meet all consumer demands. There are many reasons for this — more cars, increased purchasing power, an ever-growing demand for America's Number One anti-freeze. We are continuing to expand our production facilities as quickly as possible, to keep pace with the increasing popularity of "Prestone" brand anti-freeze.

NO RUST • NO FOAM • NO FREEZE • NO FAILURE

A New Tester!

For the New "Prestone" Anti-Freeze— the New "Eveready" Tester No. 59

**EASY TO READ • ACCURATE
RELIABLE • STURDY**

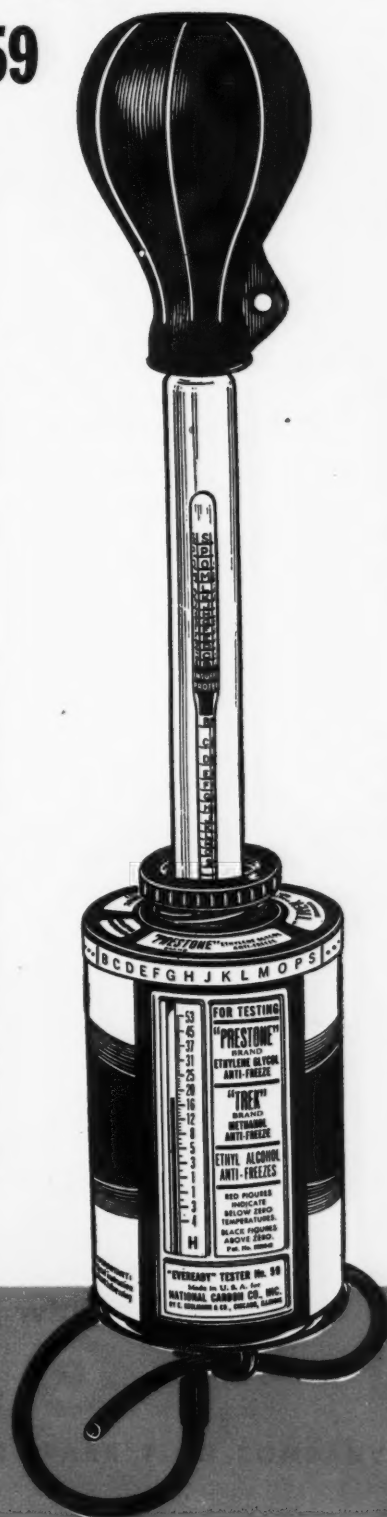
Special price \$3⁵⁰

The freezing protection of "Prestone" anti-freeze is unchanged — no new protection charts are necessary. However, the specific gravity of new, improved "Prestone" anti-freeze is changed. Testers, previously made for "Prestone" anti-freeze, will not give accurate readings for the new product.

"Eveready" tester No. 59 tells the degree of anti-freeze protection quickly and accurately. Tests new "Prestone" brand ethylene glycol anti-freeze . . . "Trek" brand methanol anti-freeze . . . and ethyl alcohol anti-freezes.

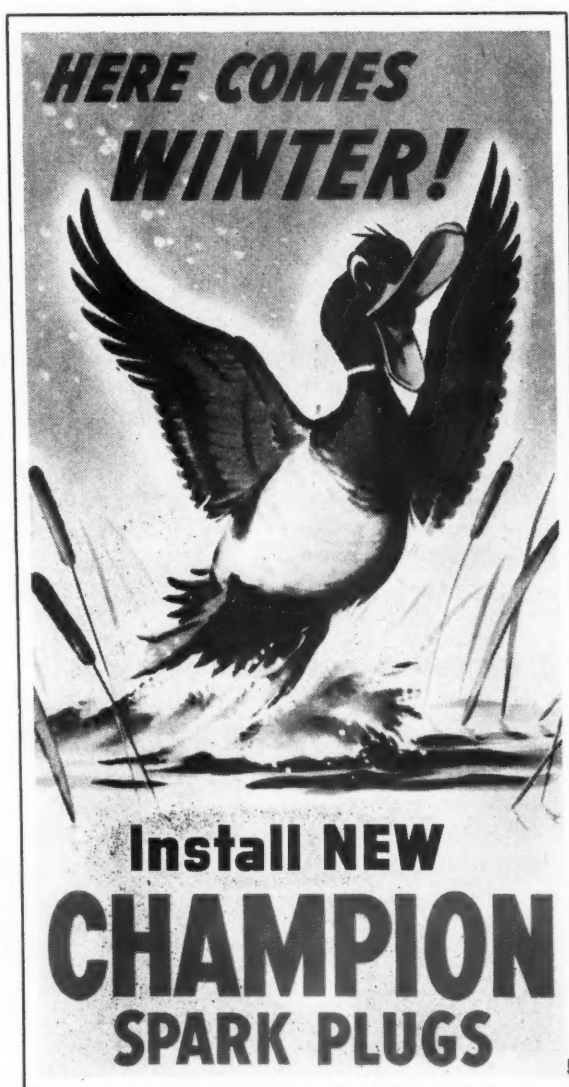
NEW MANUAL ON COOLING SYSTEM CARE:

Packed with every tester is a completely new manual on cooling system care, developed by the Society of Automotive Engineers, Inc. See your "Prestone" anti-freeze agent.



The trade-marks "Prestone," "Eveready," and "Trek" distinguish products of
NATIONAL CARBON COMPANY, INC.
30 EAST 42nd STREET, NEW YORK 17, N. Y.
Unit of Union Carbide UCC and Carbon Corporation

now's the time when "talk about
"AMERICA'S



Get this Champion
winter poster in full
colors from your
jobber or Champion
representative.

the weather" sells plenty of

FAVORITE SPARK PLUG"



point to this poster and its weather
reminder that new CHAMPIONS—tops in quality
and value—mean easier, quicker starts
with greater economy all winter long.

CHAMPION SPARK PLUG COMPANY



Protect your Customers Against Ice-Clogged Gas Lines!

When cold weather strikes, thousands of motorists find themselves stranded on the road because of ice-clogged gas lines. That can't happen to *your* customers when you sell them ZORBIT, the gas line anti-freeze.

ZORBIT puts an end to frozen gas lines. It saves motorists time and towing charges . . . gives *you* a new opportunity to profit by cold weather. Right now—*before winter strikes*—is the time to stock up with ZORBIT. See your Whiz* jobber *today!* R. M. Hollingshead Corporation. General Offices: Camden, New Jersey. Canadian Offices: Toronto. Warehouses: Dallas, San Francisco, Chicago.

DOUBLE-YOUR-MONEY-BACK

Guarantee

When Zorbit is used according to directions, we pay a motorist double his money back if his car fails to start because of ice clogging fuel lines.



*Reg. U. S. Pat. Off.



Protect your Customers Against Hard Starting In Cold Weather!

When the temperature drops, thousands of motorists add the grind, grind, grind of the starter to that sad song that means a dead battery and a hurry up call for the tow truck! Trying to coax a cold motor to life is hard on the battery, the car, and the temper!

Here's the *happy* refrain! MOTOR RYTHM* means *quick starts for cold motors!* MOTOR RYTHM keeps oil free-flowing, gives better lubrication, on cold days . . . means your customers can enjoy summer starting all winter long. Beat Old Man Winter to the gun—order your stock of MOTOR RYTHM from your Whiz* jobber now! R. M. Hollingshead Corporation. General Offices: Camden, New Jersey. Canadian Offices: Toronto. Warehouses: Dallas, San Francisco, Chicago.

Sell Motor Rythm the year 'round

There's an all-year market—a big profitable one—for Motor Rythm! Added to the crankcase, it means quick starts in cold weather . . . poured through the carburetor, it is the modern, chemical way to tune up motors—gets rid of power-wasting carbon and gum fast, and gives motors a new lease on life.



*Reg. U. S. Pat. Off.

How to be the people's choice

CUSTOMERS are sure to bring their cars to you — if you sell them on the quality of your service.

One good talking point is the trade-mark "Timken" on the tapered roller bearings you install. It spells quality to your customers because they *know* Timken bearings. They know, too, that Timken bearings give long, dependable service.

So if you want to be the people's choice, let them know they're getting nothing but the best . . .



... Just tell 'em it's "TIMKEN"



Timken tapered roller bearings are the number one choice on automobiles, trucks, busses—wherever the loads are tough! They reduce friction and wear to a minimum, and take any combination of radial and thrust loads.

Because the Timken Company makes its own fine alloy steel, quality is controlled all the way from the melting of the steel to the final bearing inspection.

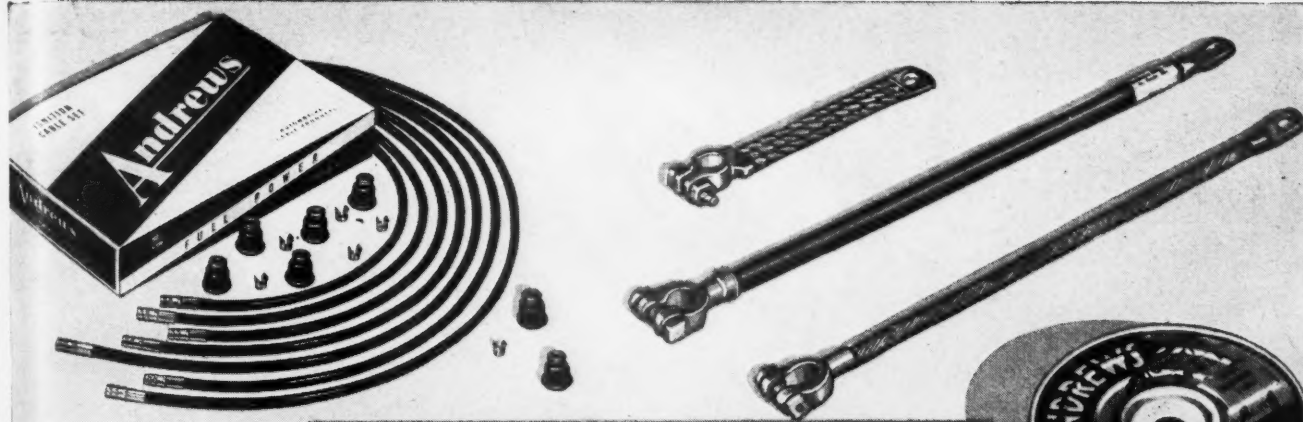
Be sure that the tapered roller bearings you use are stamped with the trade-mark "Timken". Stick to Timken bearings and your customers will stick to you. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL  NOT JUST A ROLLER  THE TIMKEN TAPERED ROLLER  BEARING TAKES RADIAL  AND THRUST  LOADS OR ANY COMBINATION 



THE ANDREWS LINE . . .

Your Best Electrical Connection

PROFITS AHEAD

MAKE ready for the big Fall and Winter business now!

BUILD up your stock of ANDREWS Automotive Cable and Automotive Electrical Products, so that you will have ample merchandise on hand to start this profitable season.

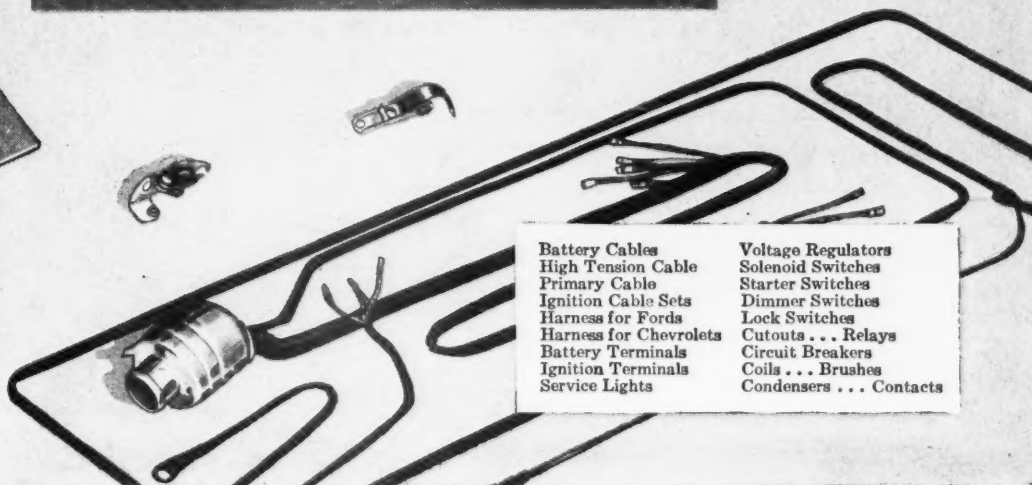
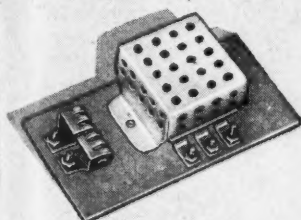
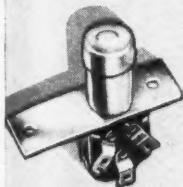
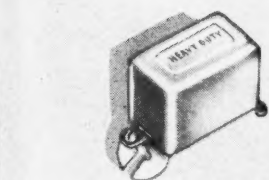
WE have the merchandise for immediate delivery . . . sturdy, heavy duty and trouble-free replacement parts that are guaranteed to do the job under all operating conditions . . . Check your ANDREWS stock now.

Andrews
MANUFACTURING CO.
ST. LOUIS, MO.

Customer Satisfaction Since 1921

Battery Cables
High Tension Cable
Primary Cable
Ignition Cable Sets
Harness for Fords
Harness for Chevrolets
Battery Terminals
Ignition Terminals
Service Lights

Voltage Regulators
Solenoid Switches
Starter Switches
Dimmer Switches
Lock Switches
Cutouts . . . Relays
Circuit Breakers
Coils . . . Brushes
Condensers . . . Contacts





On the to coast

TWO THOUSAND
ONE HUNDRED AND
SIXTY MESSAGES
BEAMED AT AMERICA'S
30,000,000 RADIO
HOMES HELP YOU SELL

hi-level
IN YOUR NEIGHBORHOOD

MAN: (SUNG)
Blues Tempo

(SOUND)

MAN: (SUNG)
Blues Tempo

(SOUND)

GIRL: (SPOKEN)

(SUNG) Fast Tempo

ANNR: (SPOKEN)

GIRL: (SUNG)

I've got those Battery Blues

Starter grinding slowly

Those car-won't-start blues ...

Starter grinding slowly

Well, you oughta

Get a Prest-O-Lite Hi-Level Battery

Prest-O-Lite Hi-Level Battery

That's good news on how to lose

Those car-won't-start, battery blues.

See your dealer for a

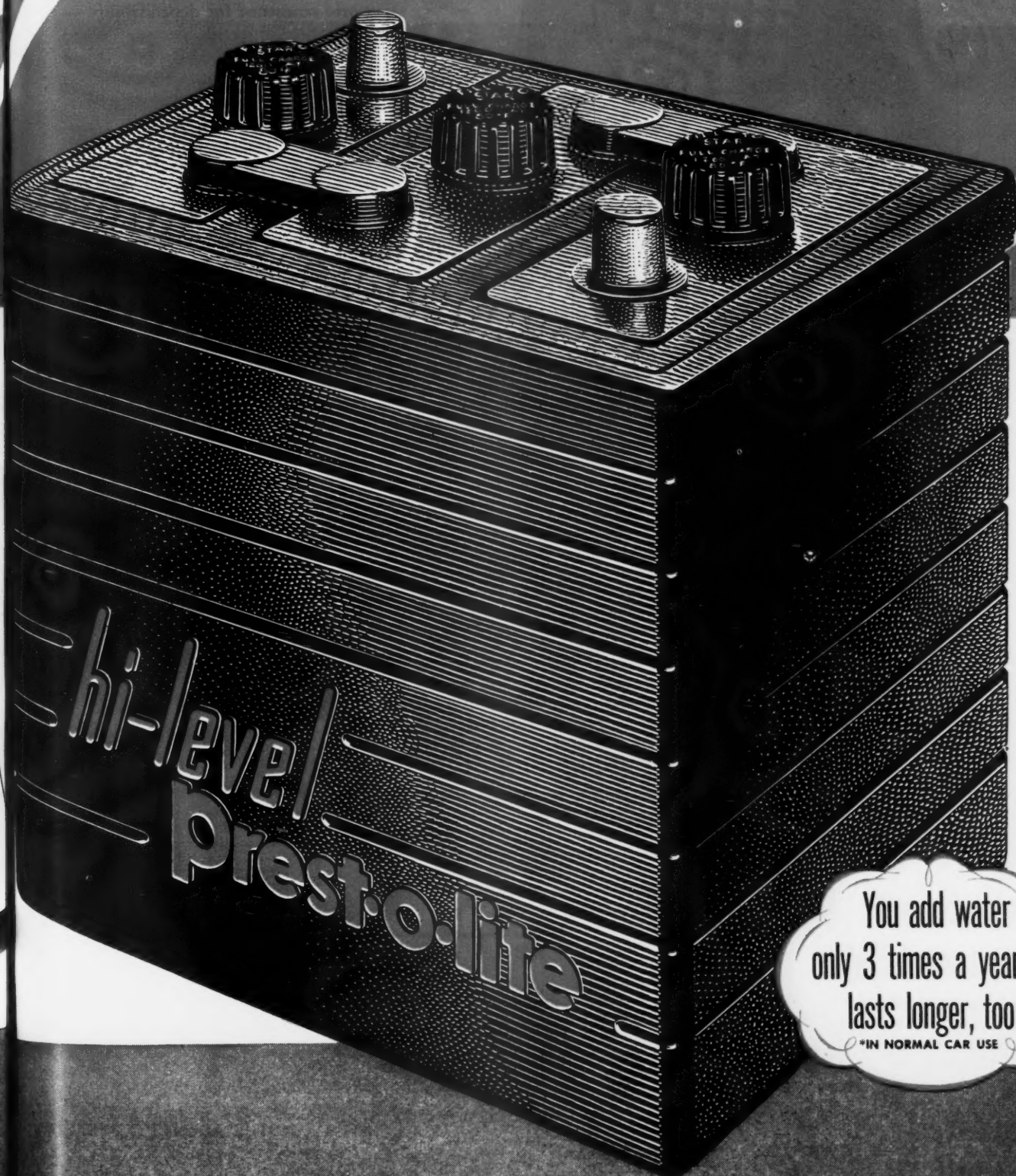
Prest-O-Lite Hi-Level Battery

It needs water only three times a

year in normal car use.

Get Prest-O-Lite!

air coast



You add water
only 3 times a year*...
lasts longer, too

*IN NORMAL CAR USE

THESE TEETH STAY SHARP

for a safe, sure grip!



Safety Begins Right at the Top With a Blackhawk. The saddle of a Blackhawk Hydraulic Jack is cut sharp, so it bites right in for a sure grip on a load. And these teeth stay sharp, too. They are milled and heat-treated — not forged or cast. This is one of the many basic differences that make Blackhawks world-renowned for dependability — and keep them in terrific demand. When you buy Jacks—buy the best, even if you must wait for them—buy Blackhawks from your Blackhawk jobber.

A Product of **BLACKHAWK MFG. CO.**
Dept. J698 Milwaukee 1, Wisconsin



"Service Proved"

These 7 Big Features Give You More For Your Money



LESS WEAR—LONGER LIFE! Exclusive "Mirror-finish" on cylinders reduces plunger cup wear.

POSITION MORE EASILY! Sled-type base "skis" over uneven surface for quick placement.

TIP - PREVENTION! Load is automatically centered over the base — plunger is dead center.

EASY MAINTENANCE! All valves under one cap screw. No dismantling of jack to clean valves.

LONGER PUMP LIFE because housing is smoothly machined steel cylinder. Easily replaced.

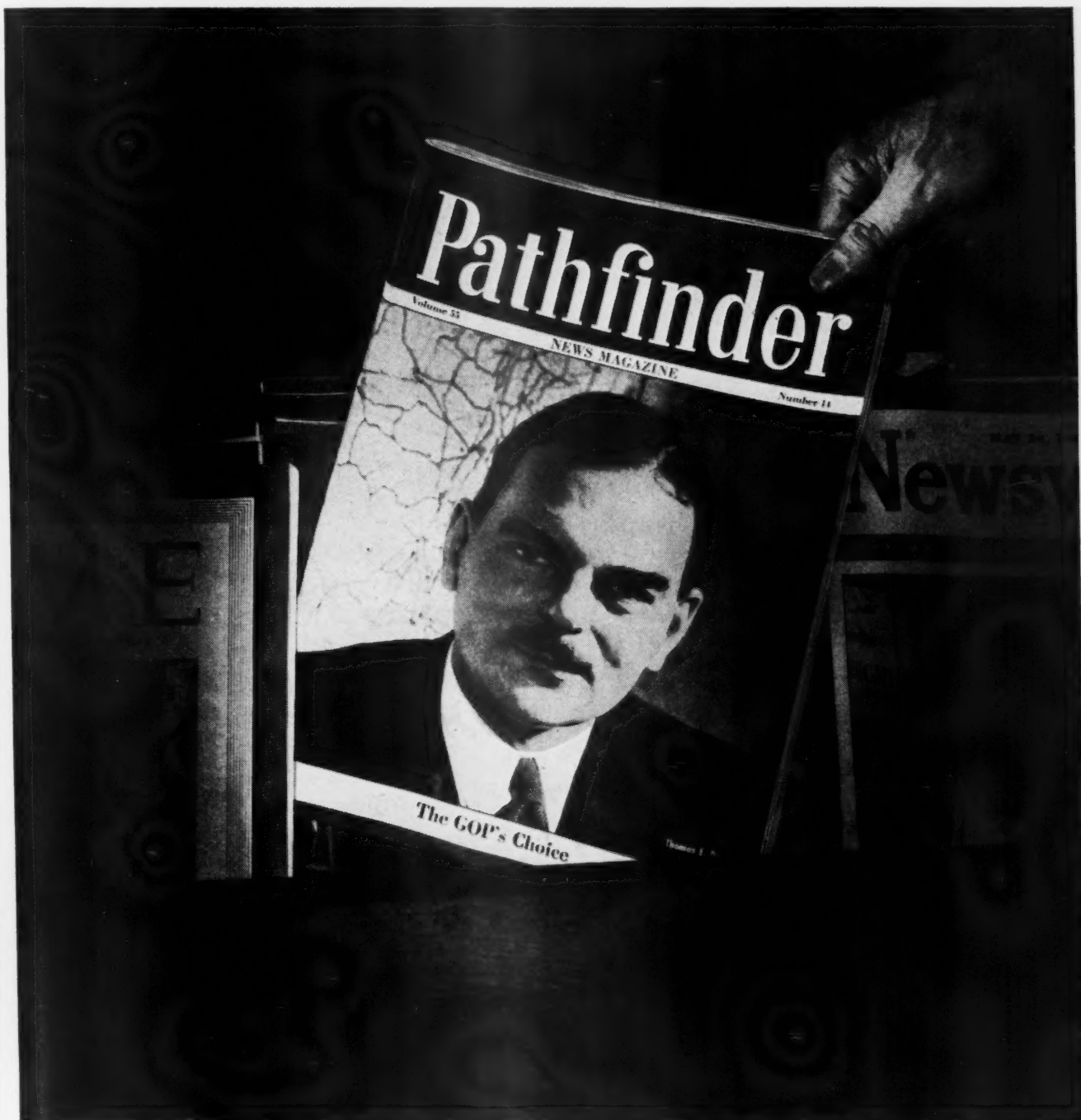
PERMANENTLY SHARP, sure-grip heat-treated saddle. Serrations cut by machine, not cast.

FULL POWER ON SIDE! Original pump-on-side feature permits horizontal floor-level use.

BLACKHAWK

America's Second Largest News Magazine!

OVER 1,000,000 CIRCULATION OF HOMETOWN LEADERS



Also publishers of FARM JOURNAL—*BIGGEST in the country*

MOTOR AGE, SEPTEMBER, 1948

25

NOW! YOU'RE SURE TO MAKE RECORD-

GREAT G-E FALL AUTO



1.



Results last spring prove that checking car lights at changeover time pays big profits!

G-E AUTO LAMP SALES skyrocketed with G.E.'s Spring promotion! Dealers' auto lamp profits hit an all-time high! And now G.E.'s Fall promotion will do an even *better* job for you! It's based on tested and proved methods that boosted sales last Spring.

HERE'S YOUR BIG OPPORTUNITY to break all records for auto lamp profits! Only two things to do: 1) Stock up *now* on G-E auto lamps, and 2) Check the lights of every car left for Winter changeover service.



2.



Look for G-E auto lamp ads in: Saturday Evening Post, Oct. 23; Nov. 13; Nov. 27. Collier's, Sept. 25; Nov. 6; Dec. 4.

G-E's big, new advertising campaign will pre-sell your customers!

IT'S THE SELLINGEST CAMPAIGN that ever hit the auto lamp business! It will sell light-checking and auto lamps during September, October and November—right at the time when practically every motorist brings his car in for changeover service.

COLORFUL, HARD-HITTING ADS in the Post and Collier's will reach *your* customers in *your* neighborhood! In Collier's, they'll tie in with the magazine's own Preventive Service campaign. Your customers will be pre-sold even more by G.E.'s exciting new radio show, "What's My Name?" starring famous Arlene Francis and broadcast over 166 ABC stations!

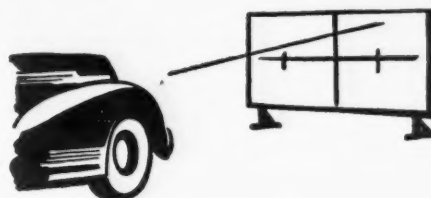
CHECK THE LIGHTS OF EVERY CAR

BREAKING SALES WITH THIS

LAMP PROMOTION!



Red hot dealer display package to help you clinch sales on the spot!



THE NEW G-E DEALER PACKAGE for Fall is better than ever—crammed with sure-fire point of sale material that *can't miss* boosting your profits. Everything ties in with checking lights—the one sure way to clinch the sale. Here's what you get—absolutely free:

- (1) Colorful, eye-catching streamers
- (2) New, attention-getting lampholder display
- (3) Foolproof, sales-pulling snap-on memo card

(4) Fact-packed newspaper that tells sure-fire sales plan.

AND YOUR G-E DISTRIBUTOR has for you: (5) Aiming screen, streamer and manual—only \$2.50—that ups profits three ways! (6) Handy, useful Lighting Service Manual, price card, and lamp guide. Call your G-E distributor today! Stock an *extra* supply of all the types and sizes of G-E auto lamps you're sure to need!

G-E LAMPS

GENERAL ELECTRIC

LEFT FOR WINTER CHANGEOVER SERVICE

Be sure to explain . . .

WOLF'S HEAD

is
**Three
Steps
Ahead**




**EXPERTLY CONTROLLED
DEWAXING**
keeps Wolf's Head free-
flowing even in cold weather

DOUBLE DISTILLING
makes Wolf's Head
richer, tougher,
more heat resistant

TRIPLE FILTERING
removes all free
carbon and other
troublesome impurities

Tell your customers that the difference is in the oil . . . not in the price. They will understand what you mean when you tell them that the refining process of Wolf's Head is carried three steps further than that of ordinary motor oils.

And don't forget to tell them that Wolf's Head . . . 100% pure Pennsylvania, premium grade . . . is refined from only the finest Pennsylvania crude. Wolf's Head Oil Refining Company, Oil City, Pa., New York 10, N. Y.

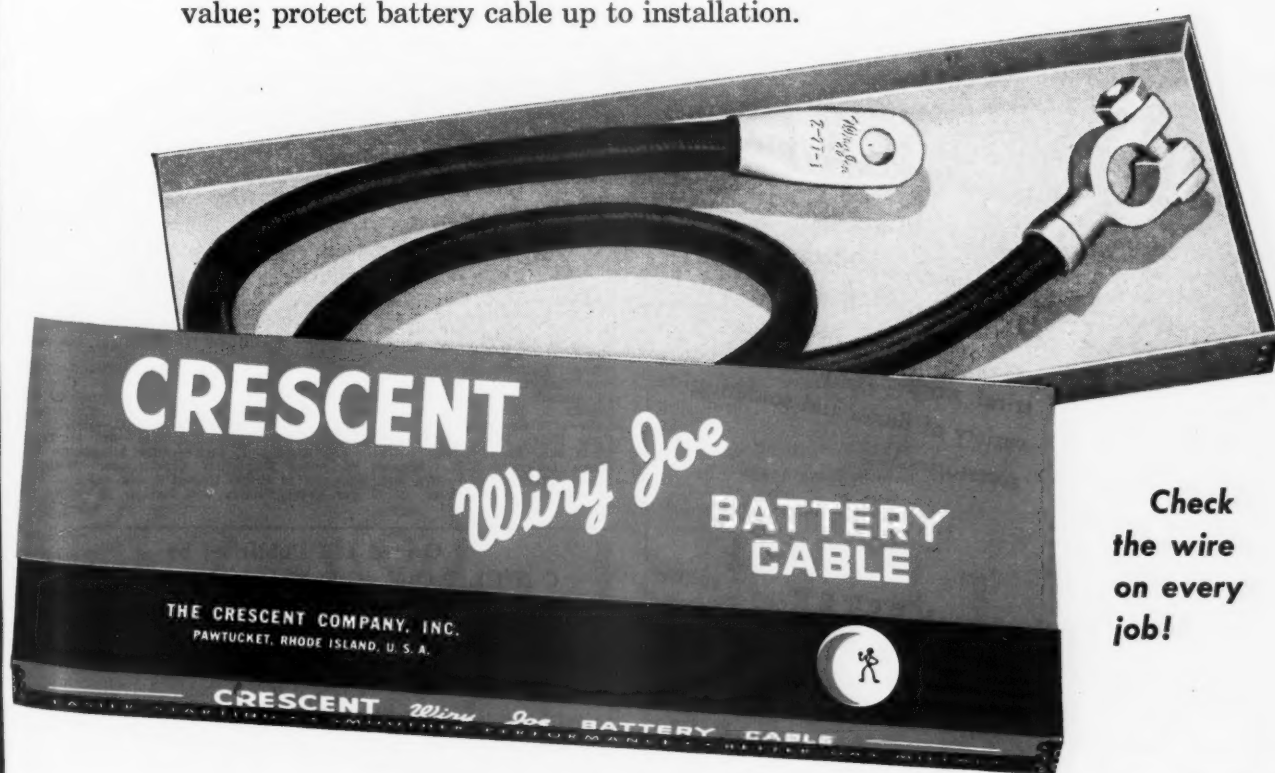
100% Pure Pennsylvania
—“Premium Grade”— P.G.C.O.A.
Permit No. 6

HERE'S *Longer Life* FOR BATTERIES

Replacing a worn or inadequate battery cable with a new Crescent-Wiry Joe Battery Cable gives any battery a new lease on life. These full No. 1 gauge cables deliver full battery voltage to starter and plugs. Drain on the battery is minimized. This means more power for the starting motor.

CRESCENT-WIRY JOE MAROON CABLES INCORPORATE ALL THESE FEATURES

- 1 Distinctive maroon finish—modern from lug to terminal.
- 2 Extremely heavy brass terminal, lead coated.
- 3 Electronically soldered connection, using the most modern equipment in which 400,000 cycles per second of high frequency current is employed, making the perfect connection, eliminating burned insulation, leaving a perfect maroon finish.
- 4 Pressure-welded copper lug.
- 5 High gloss lacquer finish, proof against oil, grease, heat, abrasion.
- 6 Full No. 1 gauge copper conductors.
- 7 Attractive sturdy packages of modern design increase shelf value; protect battery cable up to installation.



**Check
the wire
on every
job!**

WHEN NEXT IN OUR NEIGHBORHOOD, DROP IN... SEE HOW CRESCENT-WIRY JOE AUTOMOTIVE CABLE IS MADE FROM COPPER TO FINISHED PRODUCT IN ONE PLANT UNDER ONE ROOF

KESTER CORED SOLDER

1st in Your Industry



**For Peak Soldering Efficiency
IT'S KESTER**

The dependability and uniformity of Kester Cored Solder give you the utmost speed in every type of soldering job.

A Solder To Fit Every Need

There is a Kester Solder for all automotive soldering jobs. Acid-Core for general work . . . Rosin-Core for all electrical work . . . plus a wide variety of fluxes and soldering accessories.

**STANDARD
FOR INDUSTRY
SINCE 1899**

**KESTER
SOLDER**

**KESTER
SOLDER COMPANY**
4242 Wrightwood Ave., Chicago 39, Ill.
Factories Also At
Newark New Jersey • Brantford Canada

MOTOR AGE

With Which Is Combined AUTOMOBILE TRADE JOURNAL

FOR AUTOMOTIVE SERVICEMEN

VOL. LXVII, No. 10

September, 1948

JULIAN CHASE, Vice-President and Directing Editor
FRANK P. TIGHE, Editor
CHARLES M. KENYON, Managing Editor J. K. MONTGOMERY, Tech. Editor
ARTHUR H. NELLEN, JR., Assistant Editor HOWARD KOHLBRENNER, Art Dir.
LEONARD WESTRATE, Detroit News Editor JOS. GESCHELIN, Detroit Tech. Editor
M. AINSWORTH, Specification Editor E. J. HARDY, Washington Editor
R. RAYMOND KAY, Pacific Coast Editor K. RANNELLS, Washington News Editor
G. H. BAKER, Washington News Editor

In This Issue

Dateline Detroit	by Leonard Westrate	33
Washington Wire	by E. J. Hardy	34
This, That and The Other	by Frank P. Tighe	35
Chicago Dealers Drive to Junk Jalopies	by Frank P. Tighe	36
Kaiser Announces Model Changes		39
Pop Takes the Pressure Off an Oil Line Job		40
Adjusting the Packard Electromatic Clutch	by Jack Montgomery	42
New Products		44
Departmentize for Bigger Profits	by Arthur Roberts	48
The Home Mechanic Hollers for Help	by Eric Wahleen	50
Servicing the New Ford Distributor	by Jack Montgomery	52
Facing Your Way		54
News scene		55
Readers Clearing House		60
Shop Kinks		62
Merchandising Review		64
Free Lube Jobs Bring New Customers	by C. A. Loeffler	66
A Hot Tip on Heat Risers	by Arthur H. Nellen, Jr.	68
Price, Weight and Body Table		70
Advertisers' Index		194

Copyright 1948 by Chilton Company (Inc.)

G. C. BUZBY, President and Manager Automotive Division
E. H. MILLER, Adv. Mgr. E. W. HEVNER, Cir. Mgr.

REGIONAL BUSINESS MANAGERS

HARLAND E. BOYD, Cleveland J. A. LAANSMA, Detroit
RUSSELL W. CASE, JR., Philadelphia A. B. ECKEL, New York
B. E. HOTVEDT, Chicago C. H. WOOLLEY, San Francisco
H. M. WERTZ, Chicago AUGUST HAURIN, JR., Los Angeles

Offices: Philadelphia 39, Pa.—Chestnut & 56th Sts., Phone Granite 4-5600.
New York 17, N. Y.—100 E. 42nd St., Phone Murray Hill 5-8600, Chicago 1.
Ill.—Room 916, London Guarantee & Accident Bldg., Phone Franklin 4243.
Detroit 2, Mich.—1015 Stephenson Bldg., Phone Madison 2090, Cleveland 14.
Ohio—1030 Guardian Bldg., Phone Cherry 4183, Washington 4, D.C.—1091 National
Press Bldg., Phone District 8109, 8110, San Francisco 5, Cal.—605 Market St.,
Room 608, Phone Sutter 1-4951, Los Angeles 1, Cal.—2000 Miramonte Bldg.,
Phone Lafayette 5525, Member of Audit Bureau of Circulations, Member of
Associated Business Papers, Inc. Subscription Price: United States and Possessions,
Latin-American Countries, \$3.00 per year; Canada and foreign \$5.00 per year.
Single copies, 40c.

Owned and Published by
CHILTON COMPANY (INC.)

Executive Offices
Chestnut and 56th Streets, Philadelphia 39, Pa., U.S.A.
Officers and Directors
JOS. S. HILDRETH, President

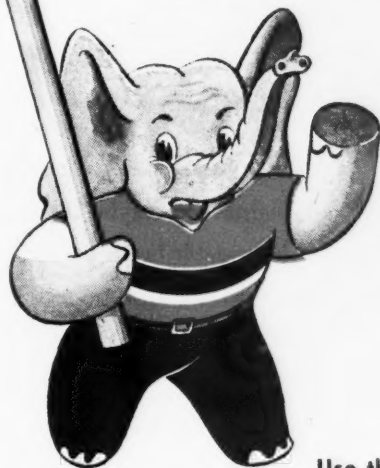
Vice Presidents
EVERETT B. TERHUNE P. M. FAHRENDORF JULIAN CHASE
THOMAS L. KANE G. O. BUZBY CHARLES J. HEALE
WILLIAM H. VALLAR, Treasurer JOHN BLAIR MOFFETT, Secretary
HARRY V. DUFFY T. W. LIPPERT D. ALLYN GABER

GEORGE MAISWINKLE, Asst. Treas.

PAUL WOOTON, Washington Member of the Editorial Board

MOTOR AGE, SEPTEMBER, 1948

STOP THAT MURDERER, CARBON MONOXIDE

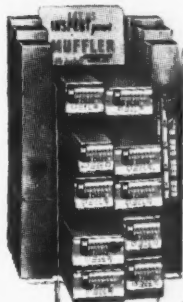


Use these EXCLUSIVE MAREMONT HELPS
They speed up Sales and Service for you

Get behind MAREMONT'S big "This'll Kill Yuh" campaign—to replace leaky mufflers for safer driving.

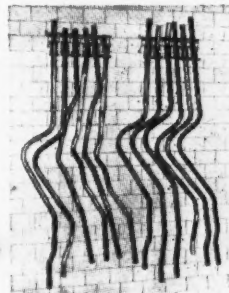
That murderer—CARBON MONOXIDE—escaping from leaky mufflers, causes thousands of deaths every year.

To stop that murderer and help promote this safety campaign, MAREMONT furnishes a BIG KIT loaded with irresistible sales ammunition—giant posters, window streamers, hand-out folders, blotters, inspection charts, mailing cards, Quick-quote catalogs, etc., etc.—all FREE to Maremont franchise dealers.



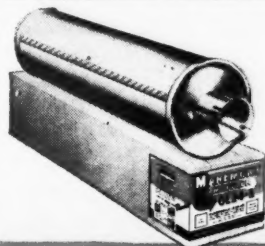
MAREMONT ECO-NOMICAL MUFFLER RACK—holds 16 most popular mufflers.

MAREMONT SPACE SAVER TAIL PIPE RACK—stocks 12 pipes—takes no floor space.



MAREMONT'S QUICK MUFFLER REMOVAL KIT—enables you to change any muffler in 1/2 hour.

QUICK-QUOTER POCKET CATALOG—gives stock number, price and labor flat rate.



See your nearest Maremont wholesaler today for details of this great campaign. And make this the biggest muffler year you ever had.

SINCE 1877

MAREMONT MUFFLERS

ALSO MANUFACTURERS OF MAREMONT ALLOY STEEL SPRINGS.

Maremont Automotive Products, Inc.
General Offices: South Ashland at
16th Street • Chicago 8, Illinois

Double your brake relining jobs... cash-in on the Raybestos Brake Certificate Program!



More brake relining jobs than you've ever had before are heading your way . . . being brought *right to your door* by the Raybestos Brake Certificate Program. This business-getting campaign, to be launched in the Saturday Evening Post, for the *first time* ties in brakes as an integral part of the get-ready-for-winter drive.

The Raybestos Brake Certificate Program pounds home the idea that only through competent brake

inspection and relining can a motorist be sure of his brakes. It spotlights the Raybestos Dealer as the man to see for dependable brake performance during winter driving. It points up the fact that when the motorist receives the Raybestos Brake Certificate from the Raybestos Serviceman, he has an actual *record* of brake condition . . . and he can be sure that his brakes are ready for winter. All this inevitably means more brake relining jobs for you!



5 out of 10 Cars on the Road Need Brake Relining! The Raybestos Brake Certificate Program will bring more cars to your door. It takes only a few minutes to pull a wheel and show the motorist the condition of his brakes. Remember, figures prove that every other car on the road needs a brake relining job!



The Raybestos Brake Certificate Means Repeat Jobs! When the brake inspection or relining job is done, give the motorist the Raybestos Brake Certificate. It reminds him to have you inspect his brakes regularly. The Raybestos Brake Certificate helps you to *make a customer . . . it also helps you keep him!*

Cash-in on This Campaign . . . Get Ready for More Brake Relining Jobs This Fall. See Your Raybestos Jobber Today or Write Us for These Certificates.

Raybestos

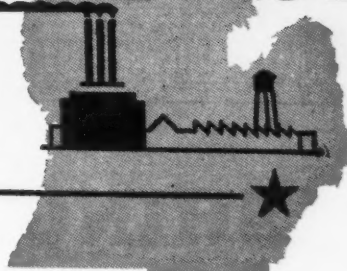
**AMERICA'S BIGGEST-SELLING
BRAKE LINING**

The Raybestos Division of RAYBESTOS-MANHATTAN, Inc., Bridgeport, Conn.



RAYBESTOS-MANHATTAN, INC., Manufacturers of: Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Mechanical Rubber Products • Rubber Covered Equipment • Asbestos Textiles • Packings • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

Dateline DETROIT



by Leonard Westrate.

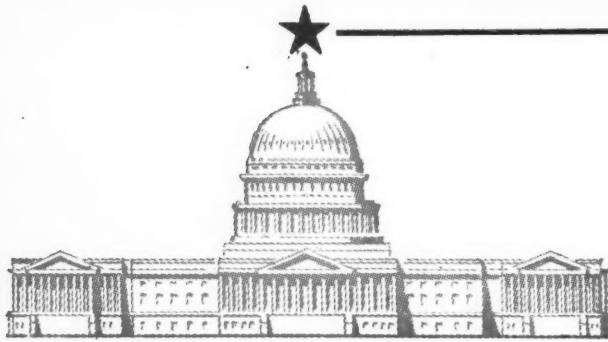
National Automobile Dealers Assn. (NADA) may make an important policy change in connection with its 1950 equipment exhibition at Atlantic City in connection with its annual convention. Heretofore, exhibitors have been confined to only those items used by the dealer in his business and not for resale. However, NADA now is thinking about relaxing restrictions to permit display of resale items as well at the 1950 show.

Liability of cooperative associations under Fair Trade Laws has been established in the courts. Stewart-Warner Corp. has obtained an injunction against a cooperative at Detroit Lakes, Minn. enjoining it from selling "South Wind" gasoline heaters below the established price. Several cooperatives have expressed doubts that the Fair Trade laws apply to them, and if the Minnesota group fights the injunction, the case will be important as a precedent.

A report floating around Detroit is that the Olds 60 Series and the Buick 40 Special will be dropped from the G.M. line. Another dope story is that the Olds six engine will be dropped in favor of the new valve-in-head V-8 across the entire line. Both reports are unconfirmed, however, and must be classed as speculation. Cadillac is known to have a new engine in the works, said to be a valve-in-head job also, with higher compression.

Still no definite word that any passenger car manufacturer is going to bonded brakes in 1949 models, but it is a possibility. Chrysler has been doing extensive work along that line, and the belief is that the DeSoto will be the first of the Chrysler family to have bonded linings. Light Dodge trucks have used the linings for more than a year. There still appears to be some problems, though, for use on passenger cars, chiefly noise.

Dopesters around Detroit have been quite free predicting that Kaiser-Frazer will introduce a convertible with a disappearing steel top. Motor Age has learned, however that the report is erroneous and that K-F will have a soft-top convertible later this Fall. The confusion about the disappearing steel top arises from another development in the making at K-F, but details are still confidential and will have to wait official clearance which will come late this year.



by E. J. Hardy

WASHINGTON WIRE

Sales practices of new and used car dealers in Washington, D. C., now under investigation by the House Sub Committee Investigating Questionable Trade Practices, are believed to be typical of such practices in other parts of the country. Representative Macy, Republican, of New York, probe chairman, says the investigation of questionable sales practices in the nation's capital may provide a pattern of prevailing practices. He claims his committee has been "urged in widely separated areas of the country to make inquiry into automobile gray market operations said to prevail generally."

New all-weather automotive greases developed by Army Ordnance and the petroleum industry are now undergoing severe road tests. Twelve Army trucks testing six different greases are now on a 20,000 mile test run which will take them through the heat of the California deserts and the bitter cold of an Alaskan winter. The new greases are expected to eliminate the 30-hour period required to convert vehicles for cold climate operation.

Congress in the dying hours of the special session approved an additional \$5,000,000 for automobiles for disabled veterans. This amount will provide autos for an estimated 3,450 veterans who are expected to qualify during the fiscal year ending June 30, 1949.

The Interstate Commerce Commission, reversing an earlier decision has permitted automobile driveaway operators to transport vehicles by both dual and full saddle-mount methods. The previous decision prohibited the towing of more than one vehicle by the saddle-mount driveaway method.

Octane ratings of regular and premium-priced gasolines sold in service stations during the winter of 1947-48 were up a few points over the ratings for the previous winter, according to the semi-annual survey of the Bureau of Mines. Regular gasoline octane ratings averaged 75.3 last winter compared with 75.0 for 1946-47. The premium-priced gasoline ratings averaged 79.4, as against 78.5 the previous winter. During the last winter of the war 1944-45, regular gasoline averaged 70.2, and premium-priced motor fuel was 75.1, and minor companies were included in the survey.

This, that and the Other

MOTOR AGE

SEPTEMBER 1948

Facts and Figures

HERE are some interesting facts taken from the forthcoming issue of "Automobile Facts and Figures" published annually by Automobile Manufacturers Association.

By the end of 1948 more than 40 million automotive vehicles will be in use in this country, a 17 per cent increase over 1941.

At the present rate motor vehicle travel in this country by Dec. 1 will total 400 billion miles this year, nearly 20 per cent more than the mileage traveled in 1941.

Of the entire U. S. population over 16 years of age, 50,586,000, or 49 per cent, are licensed drivers.

Manufacturing, sales, distribution, servicing, gas station, tourists courts, trucking and other services related to the automobile industry give employment to 8,895,000 persons, approximately one-fifth of the total national income this year will be earned by persons engaged in automotive and related activities.

Employment in factories making vehicles, parts, accessories, tires and other components is over the million mark, about 350,000 more than in 1941. In

addition, 600,000 are employed in industries supplying raw materials.

In excess of \$2.5 billion is being spent by states and major cities to meet highway improvement needs.

Passenger car registrations have increased 12 per cent since 1941, but by far the largest increase is in truck registrations which have jumped 50 per cent.

Employment in the trucking industry today is at an all-time high, totaling nearly 5.2 million. Sixty-five per cent of the live stock gets to major markets by truck, as does 93 per cent of the live poultry, 42 per cent of the vegetables, 66 per cent of the milk, and 52 per cent of the eggs.

Ratio of vehicles to population in the United States is 1 to 4. In Russia it is 1 to 70, France 1 to 25, Great Britain 1 to 17, and in the rest of the world 1 to 222.

Average life of cars and trucks is now 12.75 years, compared with 10.2 years in 1941. Average miles when scrapped now is 88,550 miles, compared with 81,352 miles in 1941.

Replacement parts production currently is at the record rate of \$2.6 billion annually, compared with \$718 million in 1941.

Gasoline use has increased by more than 25 per cent since 1941. Consumption by motorists this year is estimated to be 30 billion gallons.

How Much Is Too Much?

J. Pierpont Morgan is supposed to have said that a man who had to ask the price of a yacht just couldn't afford one. To go sailing in one of those luxury jobs you had to be ready to grab the check without whimpering.

Are we approaching that point in today's retail automobile market?



Frank P. Tighe
EDITOR.

WE'RE OUT TO SAVE LIVES!

THE CHICAGO AUTOMOBILE TRADE ASSOCIATION IS SPENDING THOUSANDS OF DOLLARS TO HELP PROTECT YOU AGAINST ACCIDENTS!



NOT FOR SALE



LOOK

For this poster in windows of new car dealers. It's your guarantee that every used car they sell is SAFE!

Because we JUNK all of our old, unsafe trade-ins!

As members of the Chicago Automobile Trade Association, we have pledged our full support to the association's drive to stamp out the use of old, unsafe "Death-Trap" cars and trucks.

Thousands of such dangerous vehicles are still on the road, daily menacing your life and the lives of your family. They must be junked!

So do your part—don't buy a used car that's not guaranteed SAFE!



Life-Saver Pledge
CHICAGO AUTOMOBILE TRADE ASSOCIATION

We Pledge:

1. To sell for every automobile only such as will be tested, which is properly tested to the proper degree of safety.
2. To take the proper steps to see that vehicles of questionable safety are never again be sold as used vehicles.
3. To have the proper steps taken to see that we sell and guarantee that it will pass Chicago's famous Safety Lane Tests.
4. To insist that every used car purchaser is made aware of the Chicago Automobile Trade Association's guarantee.

THE PUBLIC MUST BE PROTECTED FROM THESE NEEDLESS KILLINGS!

The authorized new car dealers of greater Chicago also sell and use. But, because every member dealer of the Chicago Automobile Trade Association is a responsible citizen who recognizes his obligation to the community, we have pledged to safeguard your life by refusing to sell cars or trucks incapable of passing safety lane tests... the type of vehicles that are daily causing death or injury.

This often means a loss of several hundred dollars per car... getting a \$2500 "junk" price for a "Death-Trap" that someone else might need for a reason to live!

Chicago Automobile Trade Association

Chicago

AT a time when you can sell anything with four wheels on it, Chicago new car dealers are carrying out an important public safety drive to rid the streets of unsafe cars.

The dealers, through the leadership of their Chicago Automobile Trade Association (C.A.T.A.), has spent more than \$35,000 in a newspaper advertising campaign to bring forcibly to the public attention, their pledge not to sell automobiles that cannot pass the Chicago and Evanston Safety Lane Tests.

Cook County, Illinois, which embraces the city of Chicago, has 515

by **FRANK P. TIGHE**
EDITOR

HE KILLED A MAN!



WE MUST JUNK ALL "DEATH TRAP" JALOPES...and make sure every used car sold is Guaranteed Safe to Drive

HOW DO YOU SAVE LIVES BY REFUSING TO BUY ONE WHICH IS OVER 10 YEARS OLD? GUARANTEED SAFE!

Chicago Automobile Trade Association




COME... WANT TO BUY A USED CAR CHEAP?

We MUST Stop Fly-By-Night Sellers from Dealing in "Death Trap" Jalopies...and Make Sure Every Used Car Sold Can Pass Safety Lane Tests

How do you save lives by getting the car safety guaranteed before you buy? Refuse to buy a car that is over 10 years old. Buy a car that is guaranteed safe.

Chicago Automobile Trade Association

Dealers Drive to Junk Jaloppies

new car dealers—96% of whom are members of C.A.T.A.

These members have pledged—1. To sell for scrap every automobile taken in trade which is mechanically unfit to be operated with the proper degree of safety.—2. To take the proper steps to see that certificates of registration can never again be issued for the scrapped vehicles.—3. To safety-condition every used car they sell and guarantee that it will pass the Chicago or Evanston Safety Lane Tests.—4. To issue with every used car purchased a standard approved Chicago Automobile Trade Association warrant.

The campaign began several weeks ago and has received outstanding praise from public

CONTINUED ON PAGE 72



**Thousands Watch Huge Bonfire
Sept. 9 Which Climaxed Drive
Led by Dealer Association**

J. F. Goodwin, R. H. Keeling, E. L. Cleary, Ralph Scheu, W. D. Reagan (CATA President), Paul Smithson, R. J. O'Donnell, and Mayor Martin J. Kennelly examine one of the CATA safety advertisements.



KAISER Announces Model Change which features . . .

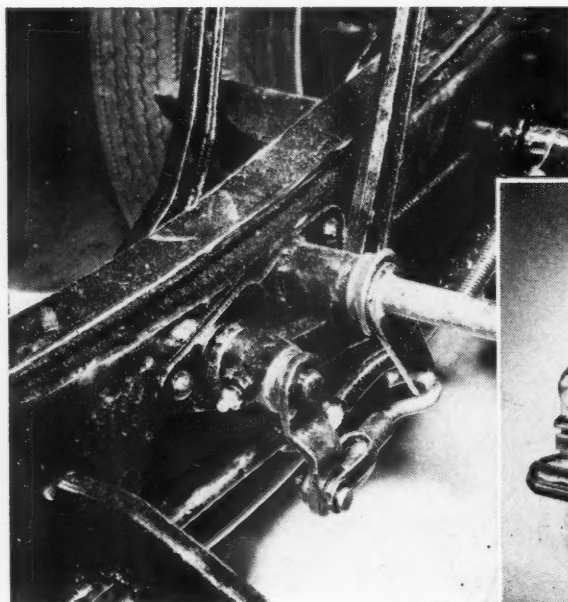
THE first model change made by the Kaiser-Frazer Corporation since the initial introduction of its line of cars is announced with the entry of 1949 Kaiser Special and DeLuxe Sedans. The most important change in the engine of the Kaiser Deluxe Model is the adoption of a dual-throat carburetor and twin manifolds. This new induction system is said to provide free flow of a balanced mixture of fuel and air to all cylinders. Each throat of the carburetor acts as a single carburetor and supplies the fuel mixture

1. Increase in horsepower without loss of economy.

2. Simplified clutch linkage eliminating 52 parts.

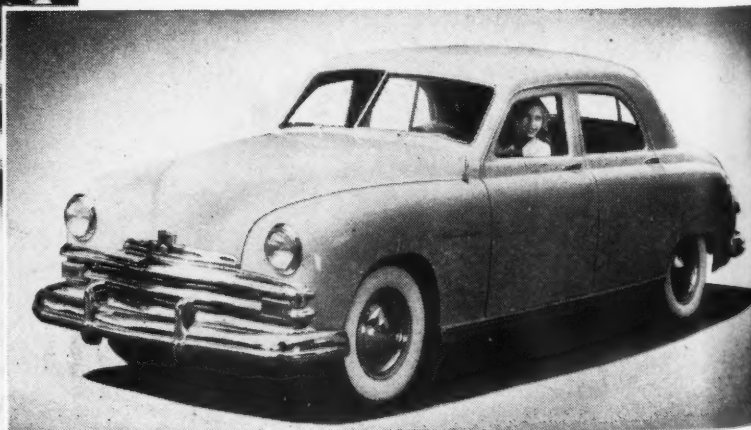
3. Changes in body styling including the grille design.

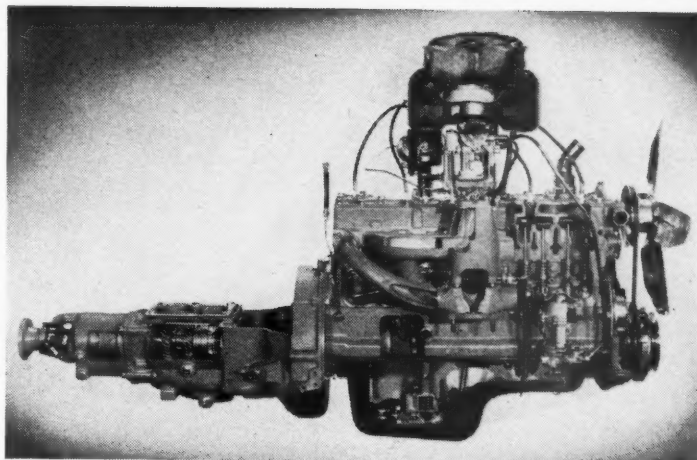
4. Restyled interiors with all new instrument panel.



Left. The new clutch linkage weighs only half as much as the linkage used on previous models.

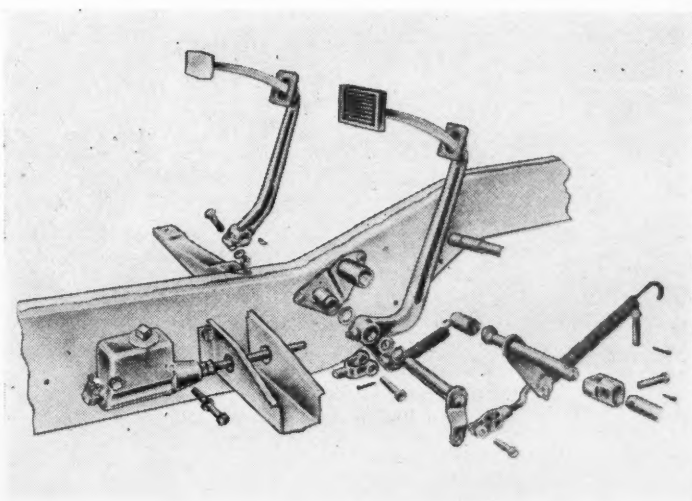
Although no major departure was made from the accepted Kaiser body design, improvements were made in the grille and in covering the frame.





Several modifications in the power plant have increased the horsepower from 100 to 112 without decreasing operating economy.

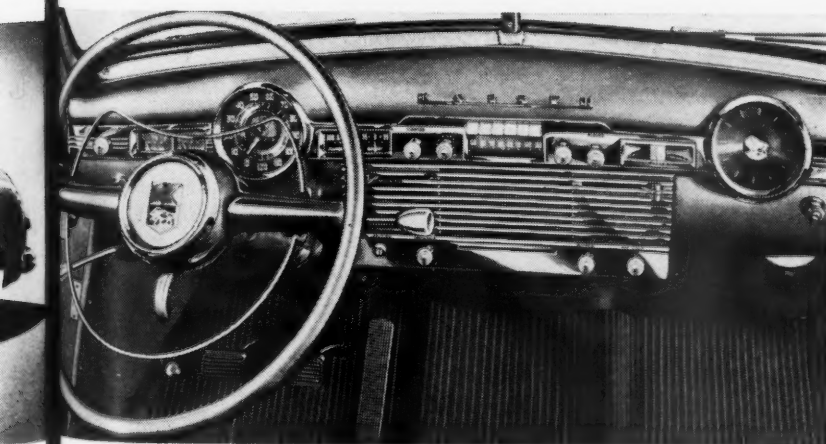
Exploded view of the new clutch linkage with 16 parts, a great reduction over the previous linkage.



to its own manifold, each manifold supplying three cylinders. This, plus many other improvements in the power plant have contributed to the increase in horsepower from 100 to 112 hp, without any decrease in operating economy. Motor vibration has been absorbed to a greater extent by mounting the engine at three points on rubber blocks, the rear mounting being on a newly designed cross member.

Clutch linkage adjustment, usually a time consuming operation, has been simplified by cutting down the three adjustments on the 1948 model to one link adjustment on the 1949 model. Clutch pedal pressure has been lowered from 32 pounds to 25 pounds. The standard clutch assembly now consists of a one-piece clutch pedal, clutch pedal shaft assembly, clutch cross shaft and lever assembly, adjusting link, clutch pedal return spring, a universal joint coupling, and rubber bushings. In this linkage system, a lever on the end of the clutch pedal shaft is connected by an adjustable link to a lever on the clutch cross shaft. The cross shaft is pivoted at the frame at one end and is connected to the clutch release shaft at the other end by a universal joint coupling. When the clutch pedal is depressed, the adjustable link causes the clutch cross shaft, coupling, and release shaft to be rotated for disengaging the clutch. Between the rubber pivot at the frame and the universal joint coupling at the clutch housing, the cross shaft operates independently of engine movement. This new linkage arrangement eliminates the clutch relay shaft and overcenter spring assembly, and has permitted the moving of the brake master cylinder to the rear of the number two frame crossmember. This results

CONTINUED ON PAGE 84



Left. The instrument panel has been restyled and the large clock type speedometer emphasized.



"Maybe you'd like to take over the job," said Larry in a mocking tone.

LARRY TATE was yawning when he emerged from the washroom at a quarter past eight.

"You couldn't have got much rest over the Labor Day week-end," said Tommy Winters, who was already pulling the wheels of a sedan.

"Labor Day!" said Larry scornfully. "Just a gag somebody thought up."

"How do you figure that? They only wanted to honor the laboring man."

Larry regarded Tommy with the disdain of a ten-year-old watching his four-year-old brother mailing a letter to Santa Claus. "You really

wanta know why they call it Labor Day?" he asked. Tommy nodded. "Well," went on Larry, "they give you a day off and dock you for it. Then you drive to some fool resort and squander so much dough you've got to labor all the next year to get even with the bill collectors."

Pop O'Neill came up as Larry was finishing his explanation. "What's the gripe this mornin'?" he asked, running a gnarled hand over his white hair.

"I was just tellin' the kid here that I don't go for that honor-the-laboring-man blah," said

Pop Takes the Pressure off an OIL LINE JOB

Larry couldn't get the connection between the high oil pressure and the leak, but fortunately Pop put him wise.

Larry. "They can keep all the honor, and just give me some more foldin' stuff in my envelope Fridays."

"Maybe they didn't have you in mind when they made it a holiday," said Pop. "They might've been thinkin' of men who do a little work once in a while."

"Oh," said Larry, "a dirty dig, huh? Well, if there's anybody around this here shop does more work 'n I do, I'd like to see 'em."

"Come to work with your eyes open some mornin'," said Pop, "and you might be surprised. But right now you gotta swell chance to show you ain't just braggin'."

"Yeah?"

"Al Toomis brung his Chevvie over this mornin' with high oil pressure. He says he has an oil leak."

"Al Toomis!" said Larry.

"What's so surprisin' about that? Al's a regular customer."

"It's a good thing I don't own this shop!"

"You got somethin' there. But what's Al got to do with it?"

"Oh nothin', only the wife goes up to his grocery store Sattid'y to get a pound of hamburger. And do you know what that chis'ler soaked her? Ninety-eight cents! At that rate,

we oughta charge him ten bucks just for lookin' at his crate."

"That so! Well, we'll charge him exactly what it says in the Flat Rate Manual. We gotta have customers after this boom busts."

"But ninety-eight cents a pound for hamburger!" said Larry.

"He don't like to charge it no more 'n you like to pay it," said Pop. "It probably *costs* him ninety cents." He tossed his head in the direction of the Chevrolet. "Now you better get to work on that car of his."

"I'll work on it, but I ain't gonna like it. What's it act like?"

"All Al knows about it is, the needle on the gage flips all the way over whenever the engine's runnin', and it leaks oil."

"That don't sound too tough," said Larry.

"Not for a good mechanic."

Larry studied him through half-closed lids. "How am I supposed to take that crack?" he asked.

"A good mechanic," said Pop sagely, "is like a good pearl diver. He keeps his mouth shut and his eyes open and gets right to the bottom of things."

"Except he don't come up with no pearl," said Larry.

"A good mechanic is a jewel in himself," said Pop, making a quick exit.

Watching him disappear into the shop office, Larry snorted. "From the way a mechanic gets paid around here," he said to Tommy, "you'd think he was a five-and-dime store phony."

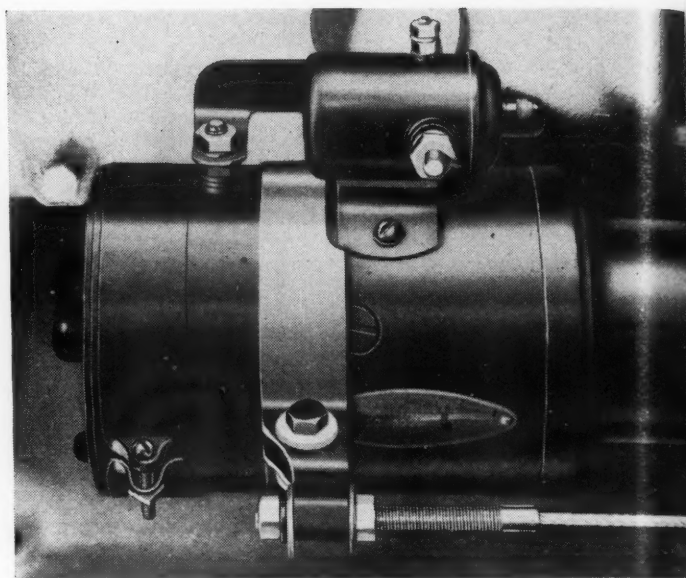
CONTINUED ON PAGE 88



BEFORE making any adjustments the clutch pedal free travel should be checked and if necessary adjusted to obtain 1½ inches of free travel.

The operating cable is adjusted by loosening or tightening the cable which is attached to the starter bracket. See Fig. 1. With the engine running and the clutch pedal depressed to ½ inch from the floor it should require very little foot pressure but through the last half inch it should feel the same as if Electromatic was locked out and the clutch was disengaged by foot. To get this increased pressure on the last ½ inch of pedal travel, adjust the cable anchored at the starter. If no cable adjustment is left, slide the bracket itself. On some models it will be necessary to grind the bracket eye to provide the necessary adjustment. Note: When this adjustment is correct it should never be changed.

To properly adjust the accelerator and throttle linkage proceed as follows: Adjust the



1. Operating cable adjustment at anchor bracket.

Adjustment Procedure for the Packard Electromatic

carburetor to the cross shaft link clevis so that there is 1/16 inch clearance between the throttle operating lever and the stop on the Electromatic control valve bracket when the carburetor idle speed screw is against the slow idle cam. Adjust the accelerator to the Electromatic clutch control valve rod end (see Fig. 2) so that the pin will enter the hole of the

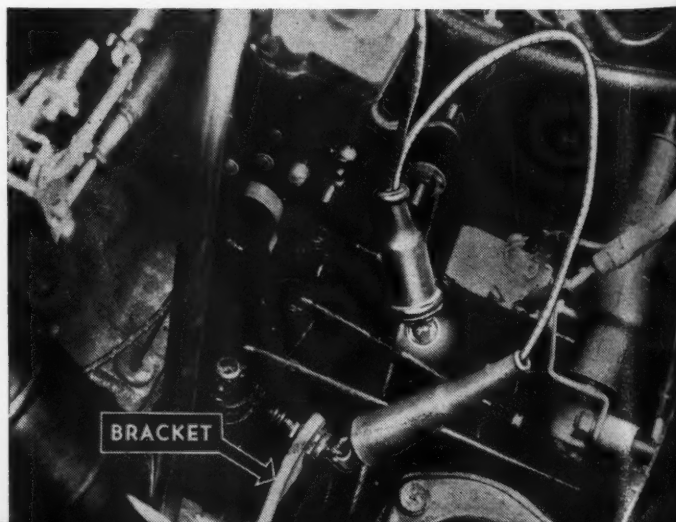
operating lever. With the accelerator depressed until the bell crank contacts the Overdrive kickdown switch plunger, the valve operating lever should rotate clockwise to the wide open throttle position.

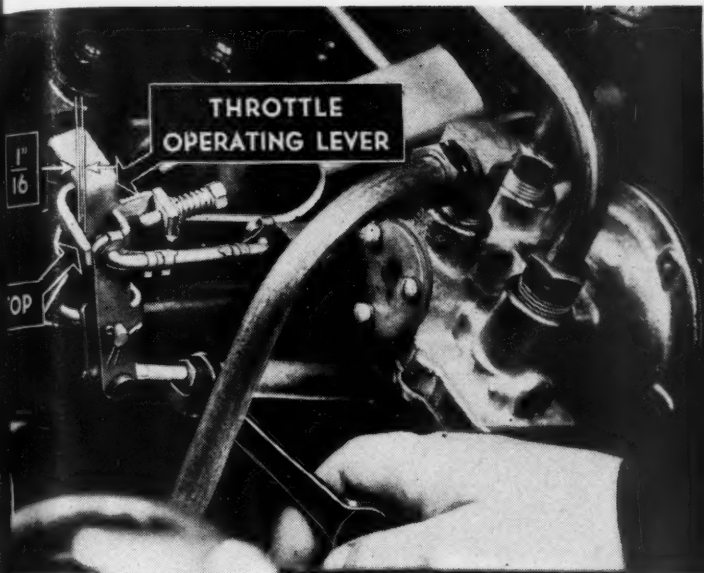
To adjust the valve operating rod, turn the engine speed adjusting screw in halfway. Disconnect the valve rod link at the valve oper-

**This step-by-step pictorial outline
will help any repairman to service
Packard's important unit properly**

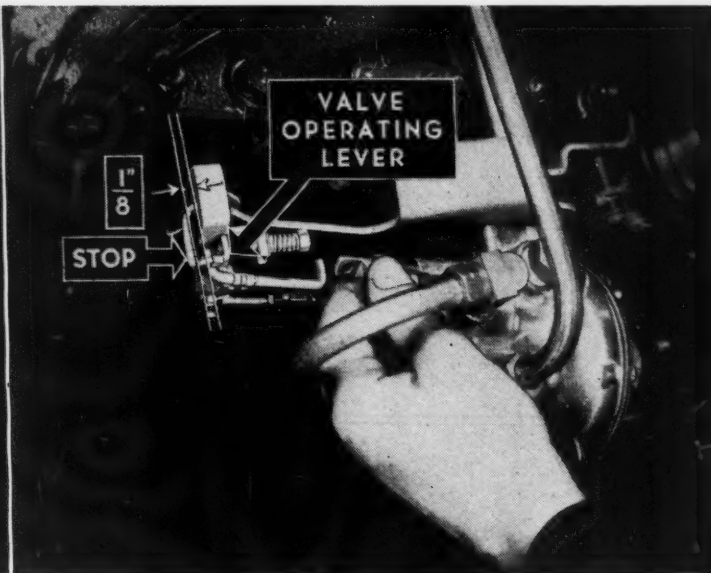
by **JACK MONTGOMERY**
Technical Editor

5. Adjusting direct speed switch using 6-volt test lamp.



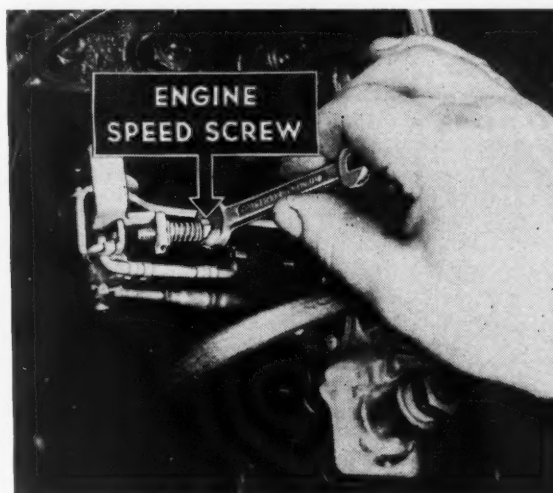


2. Adjusting accelerator to clutch control valve rod.



3. Adjusting valve rod clevis to get proper clearance.

4. Adjusting engine speed screw with open end wrench.

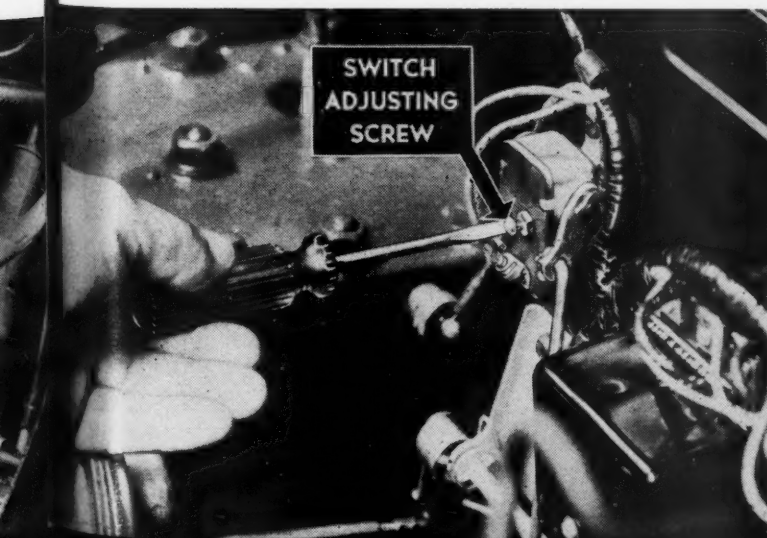


CLUTCH

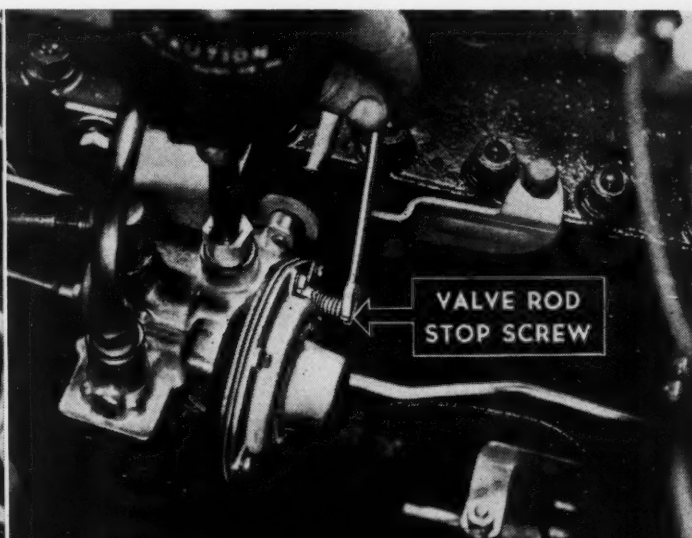
ating lever. Hold the throttle operating lever against the bracket stop. Move the valve operating lever until there is $\frac{1}{8}$ inch gap between the lever and stop. Hold the valve operating lever in this position. Move the valve rod in slowly until the power cylinder operating cable just starts to move out. Hold the valve rod at

CONTINUED ON PAGE 87

6. Loosening lock nut and adjusting the accelerator switch.



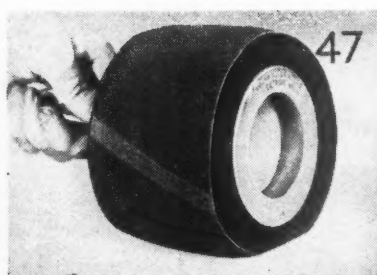
7. Adjusting valve rod stop screw for fast start adjustment.



NEW

PRODUCTS

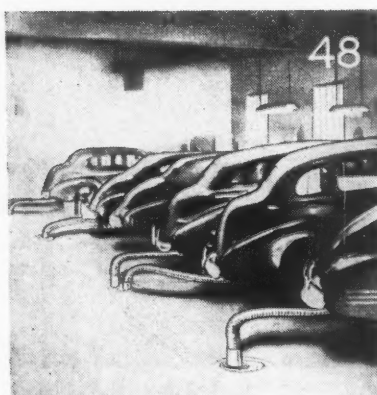
SHOW WINDOW



47

47—Nu-Matic Grinder

Nu-Matic Grinders, Inc., Detroit, Mich., is marketing the Nu-Matic Grinder, a power tool wheel unit for grinding or sanding irregular or flat surfaces. This grinder wheel consists of a pneumatic rubber drum which is inflated to from three to ten pounds per square inch, depending on the type of work to be done. The manufacturer states that this grinder wheel uses all standard band type abrasives and, by means of various adapters, can be used with any power tool shaft.



48

48—Vent System

The National System of Garage Ventilation is now featuring an underfloor system for removing exhaust fumes from their source. All parts of this system, excluding the flexible pipe from the tail-pipe to the connection on the floor, are underground. The steel ducts, which are encased in concrete, are designed to last the life of the building. Incorporated in this system is a large-capacity blower for effective removal of the gases.



49

49—Pin Bushing

The service division of the Federal-Mogul Corporation announces a V-seam piston pin bushing. The feature of the new bushing is a V-



50



51



52

FOR FURTHER INFORMATION
USE COUPON ON PAGE 46

seam, incorporated as the bushing is rolled from strip bronze. This design permits an easy starting "bite" by the reamer when bringing it to final pin-fit size. According to the manufacturer, this will eliminate the danger of bushing roll-up on the reamer.

50—Murray Display

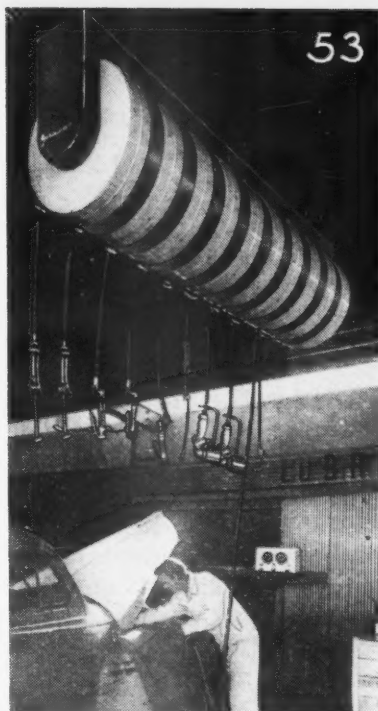
The Murray Corporation, of Towson, Md., announces a new counter display box for their hose clamp assortments. Each size of Murray Wire Grip Hose Clamps contained in these counter displays is in individual trays, and each tray is marked to show the size of the hose clamp and the sizes of hoses which they will service.

51—Windshield Washer

The Ford Motor Company, Dearborn, Mich., has announced the "See-Clear" windshield washer for Ford automobiles and trucks. This washer features a foot control and action which is independent of the engine operation, thus assuring a steady stream at all engine speeds.

52—Adjustable Mirror

Trout and Lewis, 1648 Victory Blvd., Glendale, Calif., is marketing the Saf-T-View side mirror,



which is adjusted from inside the car. One movement of the handle controls the vertical adjustment (A) and the other movement adjusts the horizontal adjustment (B). A third point of adjustment, where the mirror joins the arm, permits an eccentric rotation. It is similar in action to the directional control of modern auto spot lights.

53—Graco Oil Reels

The Gray Company, of Minneapolis, Minn., is now manufacturing overhead and floor level reels for dispensing bulk motor oil and transmission oils. Advantages claimed for these new reels are compactness and speed of handling oil and grease. The Graco Motor Oil Reels have twenty-foot hoses, hand-fitting control valves, non-drip hoses, and sixteen - quart meters.

54—Flywheel Crank

The Specialty Engineering Company of St. Paul, Minn., are marketing the "Speeco" flywheel crank. This product is designed to fit all sizes of flywheels and eliminates the turning of the flywheel by hand when working on bearings, or adjusting valves and camshafts. Crank can be used to turn the flywheel in either direction.

The weight of the "Speeco" crank is two pounds, and it folds compactly into the tool box, states the manufacturer.

55—Timing Gear Tools

The Dexter Machine Products, Inc., Chelsea, Mich., announces a set of mounting tools that make it practical to change timing gears without removing the cam or crankshaft from the engine. The manufacturer states that although the recommended procedure for installing timing gears is with the camshaft removed from the engine, emergency conditions often develop when much time can be saved by the use of such a set of tools.

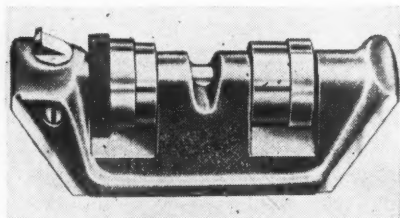
CONTINUED ON PAGE 46

New Products . . .

CONTINUED FROM PAGE 45

56—Lisle Ridge Reamer

The Lisle Corporation, Clarinda, Iowa, is marketing a new accessory which makes it possible to use the Lisle ridge reamer as an accurate



chamfering tool. When the reamer is used for chamfering, the new attachment is used in place of the regular ridge reamer cutter. The chamfering attachment is designed to remove the sharp edge left at the top of the cylinder after boring.

57—Terminal Tool

Aircraft-Marine Products, Inc., Harrisburg, Pa., is now featuring their "Certi-Crimp", a tool for installing solderless terminals on wire. The Certi-Crimp is designed to prevent faulty connections by eliminating the opening of the jaws until the tool has been completely closed and a perfect crimp has been made. This device insures a per-

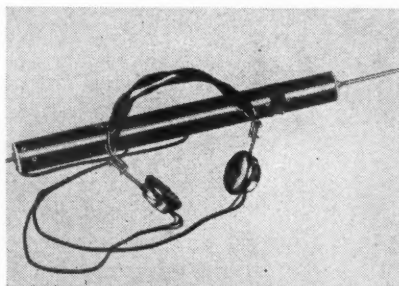
fect connection on the first terminal before a second one can be started.

58—Gem Catalog

The Gem Mfg. Co., Chicago, Ill., announces a new three-color catalog of replacement hood ornaments. This catalog features the "Magic Glow" ornament which charges itself in the day time and throws off a luminous glow at night.

59—Sound Scope

The Como-Tex Co. Inc., of Chicago, Ill., announces their Cee-Tee sound scope, an instrument de-



signed to locate trouble in mechanical equipment. This product consists of a microphone transformer, aluminum probe, and five dry cells.

Sound is amplified 400 times directly into the earphones, thus enabling the mechanic to locate noises without the need for trial and error.

60—Telephone-Wall-Card

William and Harvey Rowland, Inc., of Philadelphia, Pa., has announced their three-color telephone-



wall-card for distribution by Rowland dealers to their customers or prospective customers. The cards carry the dealer's name and address in one imprint, as well as the telephone number imprinted on the first line provided for numbers. The manufacturer states that the cost per card is about that of a daily newspaper.

61—Rubber Tire Lug

The Emergency Tire Lug Company of Ferndale, Mich., has announced an Emergency Tire Lug, designed especially for emergency use. This lug is made of rubber, thus giving more quiet operation if operated on hard surface for any length of time, and the webbing is said to be capable of withstanding an 850 pound drop test. Advantages claimed for this product is ease of installation, low cost, and strength.

Emergency Tire Lugs have been used satisfactorily for distances up to one hundred miles, according to the manufacturer.

CONTINUED ON PAGE 140

MAIL THIS COUPON:

For further information on any of the products mentioned in Motor Age write the code number of the product in the space provided below. Don't forget your name and address.

Frank P. Tighe
MOTOR AGE
Chestnut & 56th Sts., Philadelphia 39, Pa.

Code Number of New Products.....

Your Name.....Your Title.....

Your Company.....

Address.....(STREET & NO.).....(CITY).....(ZONE).....(STATE).....



PEPSI-COL



by **ARTHUR ROBERTS**

ONLY about 20 per cent of automotive maintenance men departmentize sales, in other words, list the sales and cost of sales, also the proportionate overhead separately, to arrive at the net profit in each department.

The main reason shop owners by-pass departmentization is that they think it is a difficult process. Actually it takes only a few columns more in the journals recording cash and credit sales, and a few additional pages in the ledger. Instead of one column for sales in the journals, the shop owner allots a column to each sales classification or department, such as: brake service, ignition work, motor overhauls, body and fender work, or accessory sales. In the ledger, instead of having one page for "Sales," he allots a page to each department. Basically, this is departmentization.

Unless the maintenance man departmentizes he has no way to separate the profit-producers from the profit-pilferers. Lumping his figures for the business as a whole prevents him obtaining information that he could use in planning intelligent operation. We have analyzed many accounts where the business as a whole showed a profit considered satisfactory by the maintenance man, and after breaking down the figures to departmental profits, found that certain departments were operating at a loss, whereas, others were turning in substantial profits. The "weak sisters" were absorbing some of the earnings made by the productive lines, but because this action took place behind the "iron curtain" of composite book-keeping the maintenance men assumed that all lines or departments were profitable because the



Departmentize

It pays to separate the producers from the parasites

net profit on gross sales showed black. Departmentization would have revealed the losses and corrective measures taken.

Some maintenance men do classify the sales figures according to departments, but stop there. They know what their sales are in each department, but this is only part of the information they need to do a good job. They should classify their cost of sales and their overhead departmentally too, so that they can arrive at the departmental net profit.

Departmentization differs with the business, depending upon the different types of service

Departmental Breakdown Sheet

Month of _____

Department #1				Department #2			Department #3			Department #4		
Date	Sales	Cost	Margin	Sales	Cost	Margin	Sales	Cost	Margin	Sales	Cost	Margin
Totals—\$												
Deduct allocated overhead—\$.				\$			\$			\$		
Net profit—\$.				\$			\$			\$		

Adjust the heads on this form to suit requirements. At the end of the period deduct the allocated overhead for each department as explained in this article to arrive at the net profit for each department. Enter the departmental figures daily.

This form provides a simple means of departmentizing your business, but the books and other accounting records should be arranged to provide departmental information.

sales, cost of sales and margin earned on each transaction, the data to be listed daily when the book-keeping for the day is recorded. Using this form, the man need only fill in the departmental overhead and net profit at the end of the month.

Car dealers can also departmentize, following the same formula given in this article. The main classifications, in their case, would be—New cars, used cars, repairs, accessories, gasoline and oil. If they sell brake service, car washing, ignition service, etc., and do a sizable volume in each department, they can amplify the breakdown. If the volume is only nominal, they can combine these services under "Repairs and service." Too many departments are as bad as none at all.

for Bigger Profits

to determine which departments are the weakest

sold. Accessories are considered one department. The maintenance man who does only motor overhauls need not worry much about departmentization, but the trend toward the one-stop-shop has brought into being many multi-service garages, which have not coordinated their accounting systems with this development, thus they are not making the most of the spread in their activities.

A "Departmental Breakdown Sheet," as illustrated is helpful in departmentization. The information is taken from job costing forms, sales slips and suppliers' invoices and it details the

Where a maintenance man does a big business in accessories, he may want to know how much he is profiting on the main lines, such as tires, batteries or accessories. Stock control cards showing total sales, purchases and turnover per item are the best bet here.

Such cards will also give the total margin earned on each item because the prices charged by suppliers should be listed. There is not space enough to go into the details of stock control here. We can only advise that it is another recording tool that the car dealer and automotive maintenance man should use.

The method we use in allocating overhead to the department is called indirect because the charge is based upon sales. However, departmental overhead is not always chargeable in exact ratio to sales and sometimes the depart-

CONTINUED ON PAGE 96



Armed with lots of tools and confidence, the home mechanic attacks the problem of a miss in his engine.



"Lemme see now . . . Yup, that's the motor all right!"

The Home

Whether he's a tight-wad or whether he thinks he's handy with tools, it's

Gimme time, I'll fix 'er. All it takes is a little common sense and a few odd tools.



"Ought to run like a top now. The carburetor condenser wasn't hitting on all five contact bearings."





"Dearie me, it's dark in here! Awfully greasy, too!"



"Wonder what these wires are for? What pretty sparks!"

Mechanic Hollers for Help

a safe bet he'll ask his mechanic for aid by ERIC WAHLEEN

IT'S an old story to garagemen. His job not only consists of repairing an automobile, but sometimes un-repairing what work (or damage) the owner has done before he gives up and calls the garage. A pair of coveralls doesn't make a mechanic.

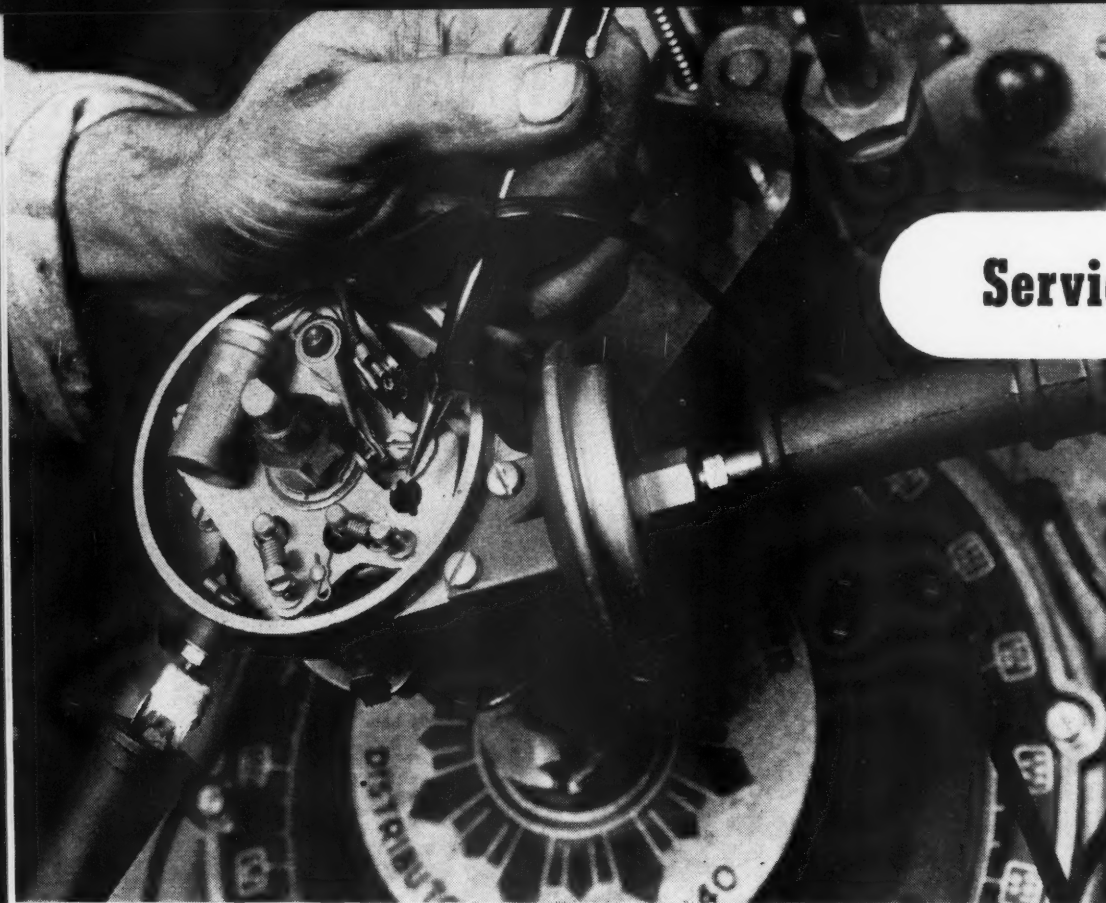
"Dead silence! Something must be wrong and I only have an hour to get to Aunt Effie's. Maybe I'd better . . ."



"Sunnydaye Garage? My car was running before, but it isn't now. Can you come over to fix it right away?"



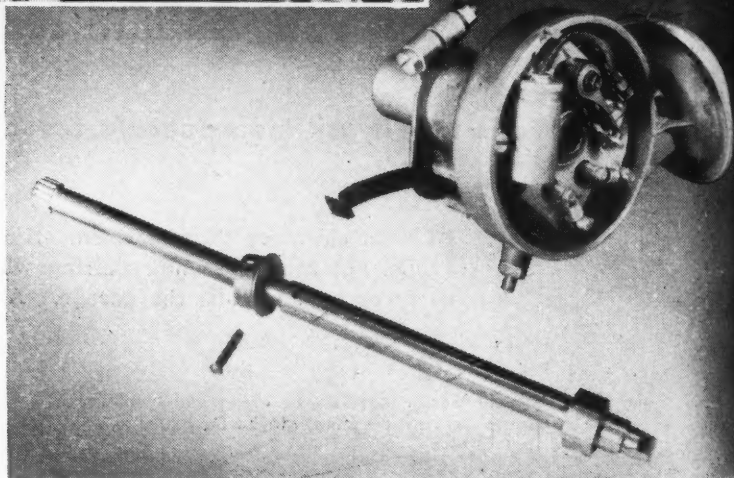
Servicing the



1. Loosen stationary contact screws slightly and insert screw driver in the adjusting slot. Set cam angle to 60 deg. and point gap to .025 inch.

2. Remove the collar pin and press out the shaft.

by JACK MONTGOMERY



THE distributor used on the 1949 Ford 6, V-8, and Mercury is different in many ways from the convention type used on other cars and should be given some thought before disassembling or overhauling.

No centrifugal advance mechanism is provided. The advance and retard is controlled by vacuum only. The carburetor has a vacuum passage with openings at both the venturi tube and a point just above the throttle plate so that the vacuum

in the distributor line is at all times a combination of carburetor, throat and venturi vacuums. The lower opening is above the throttle plate when the engine is idling, and at idle speed the spark is retarded.

Under normal road load or part throttle operation at any speed, the vacuum is high, and the spark will become fully advanced at 18 to 35 mph. The spark advance is controlled by two breaker

CONTINUED ON PAGE 120

New Ford Distributor

Several changes in design of the distributor on the Ford V-8 and Six have made these new methods of servicing necessary

3. Unhook vacuum advance springs, breaker plate lock ring and vacuum control lock then lift out the breaker plate assembly.

4. Remove two screws holding vacuum advance chamber to distributor and slide the unit out.



6. Remove two breaker-plate screws and lift out point assembly. The arm is rivetted to the stationary point.

5. Remove rotor lock by working the piece of spring steel back and forth until free.



FACING YOUR WAY



WILLIAM J. HUBBARD was recently honored as the country's oldest Chevrolet dealer in point of service. He has sold Chevrolets for 35 years



WILLIAM J. CRONIN has been appointed to the very important post of Managing Director of the Automobile Manufacturers Association



WILLIAM G. HANCOCK, who has served for over thirty years in many positions with McCord Corporation was recently elected President

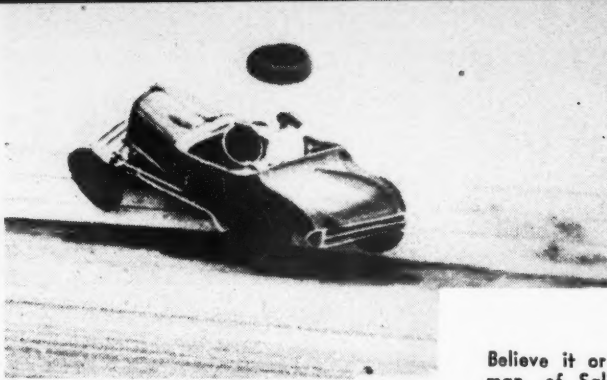


HEYLIGER CHURCH, Vice-President in charge of sales of the Weatherhead Company has become head of all sales divisions, foreign and domestic

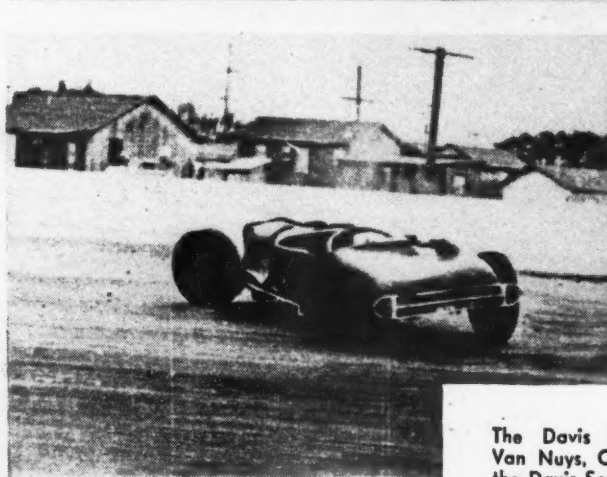
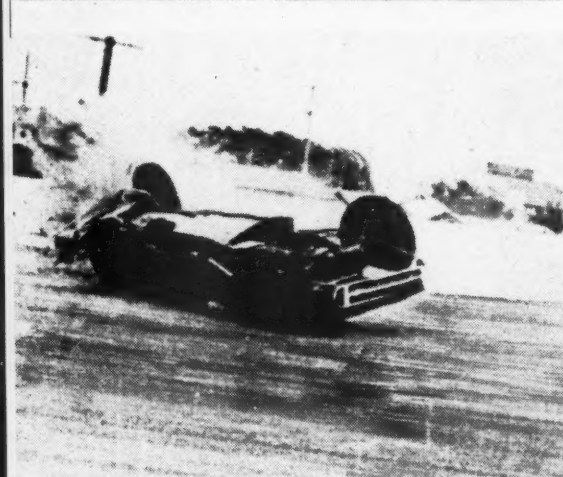
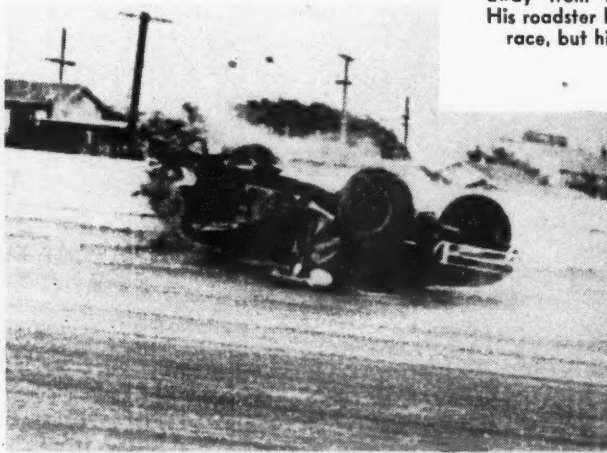
NEWSCE



A ten horsepower air-cooled engine pushes this 600 lb. car, the Airway, along at 50 mph, according to Airway Motors, Inc., San Diego, Calif. Designed by aeronautical engineers, this car has fluid drive, engine in the rear, and is expected to sell for between \$500 and \$750.



Believe it or not, Arnold Chapman, of Salinas, Calif., walked away from this crackup unhurt. His roadster lost a wheel during a race, but his safety belt held.



The Davis Motorcar Company, Van Nuys, Calif., has announced the Davis Seven Passenger Sedan, which seats four in the front and three in the rear.

Presenting the
Davis 7 PASSENGER SEDAN

NEWSCENE

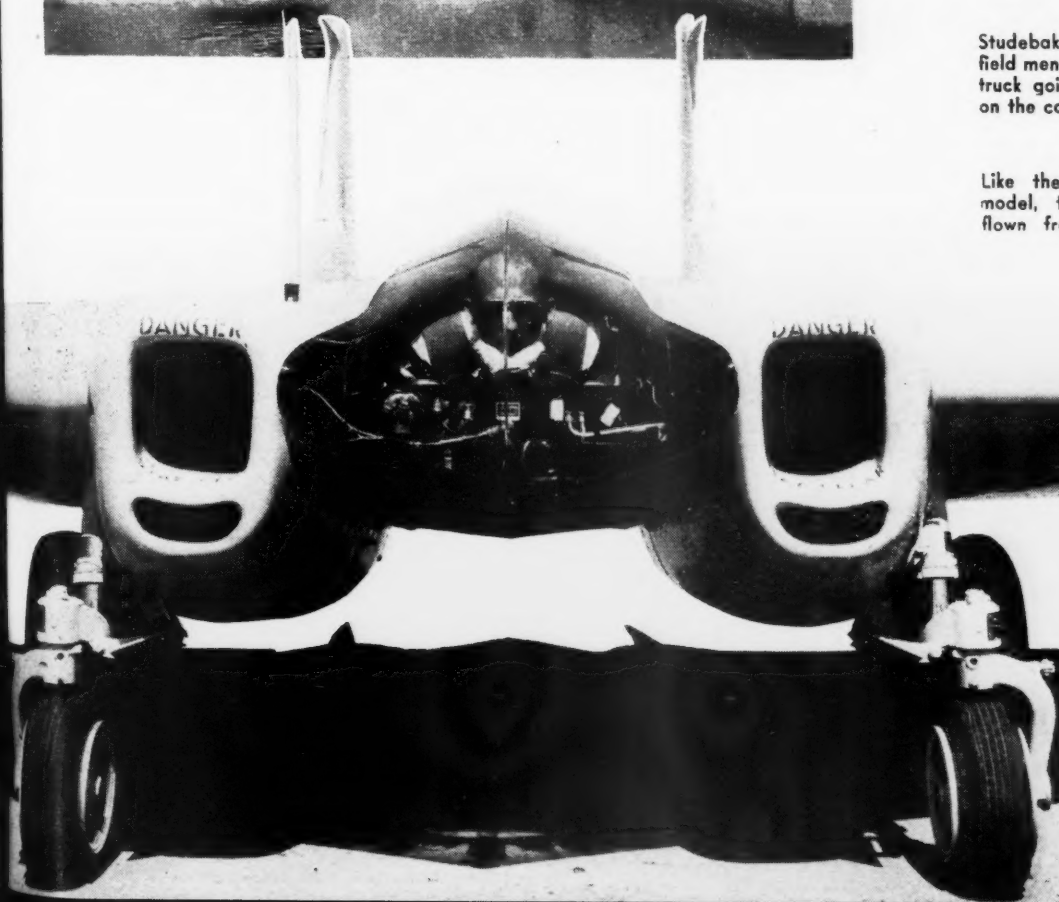


Above — Jack Benny didn't buy this 1936 Maxwell from Jim Robbins because his OLD one is still in good shape.

Employees of Bendall Motor Sales, Alexandria, Va., enjoy the use of a new car on vacations, thanks to their boss. H. W. Bendall.

Studebaker sales executives and field men watch a new Studebaker truck going through a water test on the company's proving ground.

Like the Wright Brothers' first model, this Northrop XP-79 is flown from the prone position.



NEWSCENE

Safe Type Anti-Freeze To Be Short Next Winter

NADA reports that safe anti-freeze products may again be in short supply next winter. The association adds that such a shortage might result in harmful anti-freeze compounds flooding the market. It classes as deleterious the petroleum base anti-freezes because they attack radiator hose connection made from natural or reclaimed rubber. NADA qualifies the general charge against such compounds by stating that if the anti-freeze material is properly and highly refined and is used with a radiator hose of an oil resistant type of synthetic type rubber, the hose will not be seriously affected. Such a hose, however, is used in very limited extent, if at all, on original equipment and is difficult to obtain as replacement. Particularly harmful are the salt base anti-freezes which cause serious corrosion of cylinder block, water pump, radiator, and particularly aluminum parts such as cylinder heads. These solutions also have a great tendency to "creep" and may get into engine cylinders where damage to interior engine parts or complete ruination of the engine may result.

Twenty-Three More Firms Elected Accepted by NSPA

At a recent meeting of the membership committee, twenty wholesalers and three manufacturers were accepted as members of the National Standard Parts Association. This brings the total number of U. S. wholesalers and manufacturers joining the association in the first six months of 1948 to seventy-two, according to L. Wiggins, executive vice-president.

New Plant Will Double Crosley Engine Output

Crosley Motors has let contracts for a 45,000-square-foot addition to its plant which will provide a production capacity of 500 Cobra engines a day, double the present output, Powel Crosley, Jr., president, announced recently.

Engine assembly and final testing will occupy the new plant's upper floor while the street level space will be used for receiving, shipping and materials handling. Additional production personnel will be required to augment the present staff of approximately 700.

Construction is being pushed at high speed, Crosley said, because demand for the lightweight cars is now almost double the monthly output. He added that demand for the Crosley Cobra engine for a variety of non-automotive uses is steadily increasing.

How Regulation W Affects Car Transactions

The Federal Reserve Board is getting ready to clamp down on installment credit.

FRB says it will revive Regulation W in a slightly altered form on September 20, 1948. Among other things, the regulation will prescribe credit limitations on the sale of new and used automobiles.

All installment purchases of more than \$50 and less than \$5,000 will be affected by the issuance of the new regulation. In the case of automobiles, FRB will require down payments of one-third of the appraisal value of the vehicle.

Automobile purchasers who buy at prices higher than those set forth in the standard appraisal guides will be forced to put up not only one-third of the appraisal value in cash, but also the difference between the appraisal value and the premium price.

In addition, purchasers must pay off within 15 months any commodity valued at less than \$1,000. In the case of goods selling at more than \$1,000 but less than \$5,000, purchasers are given 18 months to pay, except that monthly payments on amounts over \$1,000 must not be less than \$70.

CONTINUED ON PAGE 124

New Passenger Car Registrations*

Arranged by Makes in Descending Order According to the Six Months' 1948 Totals

MAKE	SIX MONTHS							
	June 1948		May 1948		June 1947		Units	
	1948	1947	1948	1947	1948	1947	1948	Per Cent of Total
Chevrolet.....	57,567	53,896	59,661	59,661	357,613	316,286	21.42	20.61
Ford.....	16,527	6,056	44,735	44,735	176,398	255,640	10.57	16.65
Plymouth.....	14,941	25,908	25,658	25,658	157,555	156,233	9.44	10.18
Buick.....	19,961	19,043	20,352	20,352	126,827	114,844	7.58	7.48
Pontiac.....	17,430	17,861	18,201	18,201	117,524	102,154	7.04	6.66
Dodge.....	9,280	17,141	16,867	16,867	104,167	98,430	6.24	6.41
Oldsmobile.....	14,587	14,711	14,897	14,897	91,504	90,079	5.48	5.87
Studebaker.....	13,267	12,121	8,658	8,658	72,935	50,985	4.37	3.32
Nash.....	10,573	11,267	8,505	8,505	61,619	54,707	3.69	3.56
Hudson.....	11,686	10,794	8,670	8,670	59,008	50,058	3.53	3.26
Kaiser.....	11,239	10,622	3,337	3,337	55,919	18,613	3.35	1.21
Mercury.....	11,053	8,257	8,454	8,454	51,105	54,362	3.06	3.54
Chrysler.....	4,783	9,377	7,419	7,419	50,478	44,918	3.02	2.93
De Soto.....	3,877	7,011	5,549	5,549	39,089	34,389	2.34	2.24
Packard.....	6,007	8,484	3,826	3,826	38,159	21,203	2.29	1.38
Frazer.....	7,004	7,216	5,003	5,003	36,292	15,135	2.17	.99
Cadillac.....	5,373	5,763	4,685	4,685	27,387	25,506	1.64	1.66
Willis.....	1,541	2,485	2,049	2,049	13,721	11,300	.82	.74
Crosley.....	2,734	2,944	1,319	1,319	13,481	7,428	.81	.48
Lincoln.....	3,723	2,967	2,272	2,272	12,020	12,257	.72	.80
Austin.....	925	853	.....	.....	4,501	.....	.27	.....
British Ford.....	199	100	.....	.....	300	.....	.02	.....
Playboy.....	9	5	.....	.....	22	.....	.....	.....
Tucker.....	.....	1	.....	.....	1	.....	.....	.....
All Others.....	640	545	86	86	2,103	391	.13	.03
Totals.....	246,926	255,638	269,863	269,863	1,669,528	1,534,918	100.00	100.00

*—Data from R. L. Polk & Co. are complete for all states and for all months.

Dealers Form Committee To Keep Discount Rate

NADA has formed an industry relations committee to work with automobile manufacturers on problems of mutual interest. Undoubtedly, a compelling force behind formation of the committee is a report that has been circulating through the trade that the manufacturers are contemplating cutting the traditional dealer discount averaging in the neighborhood of 24 per cent.

Factory spokesmen in recent weeks have been bearing heavily upon the favorable earnings position of automobile dealers while stressing the importance of fair treatment of buyers in such matters as trade-in-allowances and loading of accessories.

Although it is well known that automobile dealers are reaping a windfall in the current market, it is believed that traditional discounts will not be disturbed.

Cadillac's Air Shipment Of Parts Successful

Air freight shipments of replacement parts by Cadillac Motor Car Division now averages 12 tons monthly and the program has reduced warehousing costs and delivery time, according to George W. Otto, Cadillac's parts and service manager.

"Use of air freight allows our dealers to serve more customers by faster turnover of service space, and builds customer good will by getting inoperative cars back on the road again in a minimum of time," Mr. Otto said. "Breakage and damage in air freight shipments also are considerably lower than by other forms of delivery."

Air shipment orders received by Cadillac before 3 p. m. are gathered and shipped before closing hours of that day. On the average, the company fills 25 to 35 orders per day, mostly for slow moving parts not generally stocked by dealers or central distribution centers, according to the parts and service manager.

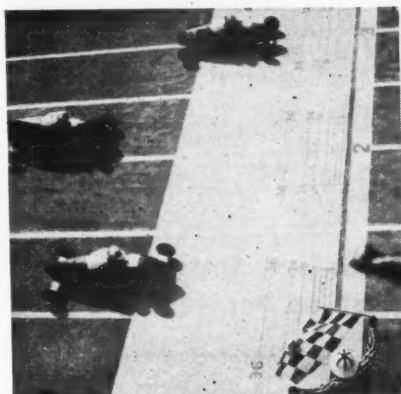


Mounted on a Mack chassis and powered by a 275 hp Cummins diesel engine, this Heil body holds 19½ yards. It is 11½ feet high and 8½ feet wide. It will be used for mining operations in the Mesabi range of Minnesota.

Strub Wins College Education Offered by Chevrolet

Donald F. Strub, a 13-year-old "veteran driver" from Warren, O., won the eleventh running of the All-American Soap Box Derby, besting 147 other youthful competitors from all sections of the continent. He competed previously in the 1946 and 1947 Akron races, winning runner-up position last year.

Strub's prize for winning the annual juvenile sports classic is a college education insured by the presentation to him of a four-year college scholarship by Chevrolet. Second prize won by Turley, is a 1948 Chevrolet sedan. More than 75,000 persons from all sections of the nation witnessed the race.



In the final heat of the All-American Soap Box Derby at Akron, O., Wilbur Shaw is about to lower the checkered flag as Donald Strub of Warren, O., leads at the finish line. A split second behind is Gary Turley, 14, of Charleston, West Virginia, and in third place is William Brown of San Francisco, California.

Latest SAE Report on High Compression Engines

Three General Motors technicians reported recently to the Society of Automotive Engineers sectional meeting how high-compression engines promise "large gains in fuel economy" if high-octane gasoline "can be made available at a reasonable cost to the consumer."

The report on laboratory and road tested high-compression engines, "Increasing the Thermal Efficiencies of Internal Combustion Engines," was presented by John M. Campbell, Darl F. Caris and Dr. Lloyd L. Withrow of the GM Research Laboratories Division.

It was a good over-all summary of "the engine-fuel relationship as it now faces the (automotive) industry."

"The serious discussions resulting from local fuel shortages during the past winter in some parts of the United States called attention to the degree to which we depend upon our petroleum resources," the new report said.

"... These discussions point toward the need for further improvements in the thermal efficiencies of internal combustion engines because they are by far the largest single consumers of petroleum products."

"The fact that even small gains in engine efficiency can mean much to our domestic economy comes into focus when it is recalled that spark-

CONTINUED ON PAGE 124

CLEARING HOUSE

FOR SERVICEMEN'S QUERIES

• • • By JACK MONTGOMERY • Technical Editor



Vibration at 30 MPH in Plymouth

We have a 1946 Plymouth that is giving us a good bit of trouble. This particular car has a very noticeable vibration at 30 M.P.H. This occurs at exactly 30 M.P.H. not above or below. The car has around 30,000 miles on it and has been kept up very nicely. It is of the early '46 type and the drive shaft has been changed to a mechanic's cross and roller type. We have tried other types of shafts but they didn't help at all.

This noise only occurs on a hard pull and in high gear. Below 30 there is no noise and above 30 it cuts right off. Hold the car at exactly 30 by applying the brake and pressing the accelerator, and the noise keeps right on. The longer the car is held the louder the noise. The vibration is very severe.

So far we have checked all wheel bearings, checked front engine balancer (damper), installed a complete exhaust line, and pulled the rear and checked it completely, found ring gear bolts loose. We have spring clips on both rear springs and shackle rubbers have been replaced many times.

The owner is a comparatively fast driver but as I said, takes care of the car. The oil pressure is 50 lbs. and no bearing noise can be heard.—W. W. Miller, Jr., Miller Motors Inc., 5937-47 Belair Road, Baltimore 6, Maryland.

REGARDING the trouble you are experiencing on your 1946 Plymouth which has a very noticeable vibration at 30 miles per hour, I would say it is caused by the engine vibrating.

I would suggest running the car with the carburetor air cleaner removed as this will sometimes cause such a vibration.

I would also make a thorough examination of the exhaust system mountings for flexibility and also make sure the pipes are not touching any crossmembers or anything along the line.

If the above suggestions do not help, remove the clutch and examine the damper springs in the clutch hub for looseness. If springs show any wear at all, replace the assembly.

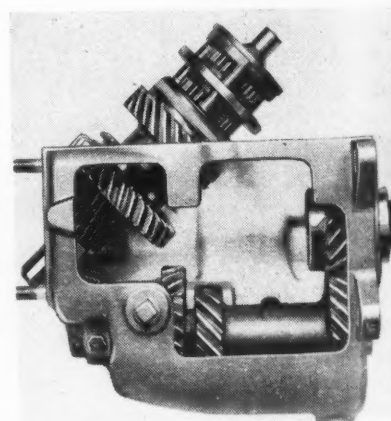
Buick Slips Out of Gear on Deceleration

I have a Buick '39-61 that is giving trouble in the transmission, slipping out of second gear on deceleration going down hill. The owner has spent considerable time to overcome the difficulty only to have the same thing occur a short time after it was worked on. All parts have been replaced at one time

or another and the last time it was down the following parts were replaced: main drive gear and bearing and roller bearings, second gear, main shaft and bearing, counter shaft and needle bearings.

The case was also replaced as the main drive gear bearing fit too loosely in the case. However, it still slips out of second going down a short steep grade or a gradual long one.—E. A. Lindstrom, Portola Garage & Machine Shop, Portola Road, Rt. 1, Box 643, Redwood City, California.

CONSIDERING all the work you have done on your transmission, I would suggest you tear it apart once more and replace the synchronizer assembly and examine all the bearings very carefully.

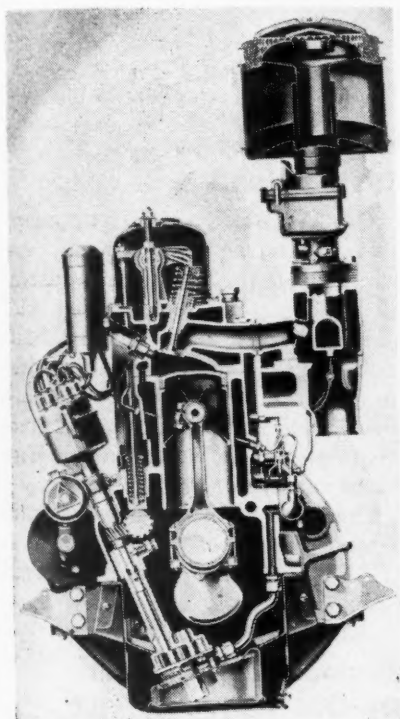


I would also suggest you examine the shift rails and forks for wear and replace if necessary.

Planing Head on Chevrolet Didn't Help

I have a 1947 Chevrolet with 15,000 miles on it. I wanted to increase the power so I had .005 of an inch planed off of the head. I find that this did not increase the power. I have checked compression, it has 120 lb. all cylinders, new points, plugs, condenser, tried time in different position, nothing seemed to help. The valves are set at .006 and .013 loose. — Wise Brothers, 116 N. 4th St., Youngwood, Pennsylvania.

REGARDING your 1947 Chevrolet on which the power has not increased after planing the head, I



would suggest removing the head once more and doing a valve job on it. Enlarge the valve ports a little and thoroughly clean the inside of your manifold. Also have your distributor removed and set on a distributor tester, paying particular attention to the centrifugal advance. I would also suggest installing a one step richer metering rod in the carburetor. Set the valves at .008 and .015 instead of .006 and .013.

Heater Pulls Down Lights at Idle

I am having considerable trouble with the electrical system of a 1942

Chrysler Windsor. If the heater is on at the same time as lights when idling, the lights will cut down so you can hardly see. This trouble is not in lights alone; it is in the complete system.

I have had the wires checked that go from the starter to ammeter. Replaced voltage control, had it checked and new battery and cables. Nobody can tell me what to do. The generator is working fine, battery stays up, and the car is easy to start.

Can you tell me what to do or can you tell me if the trouble could be in ammeter?—Ortonville Auto Salvage, 332 Second St., Ortonville, Minnesota.

MY SUGGESTION regarding this would be to install a separate relay for the heater as I believe the ammeter is being overloaded.

I would also install another ground from the engine to the frame.

Strange Noise in Studebaker Champion

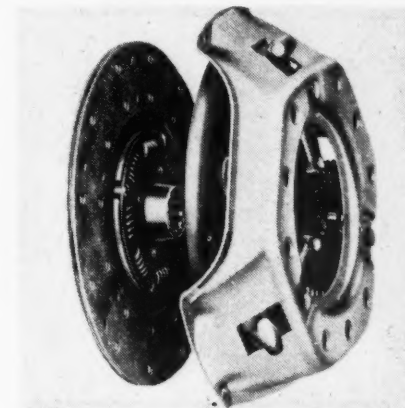
I have been having trouble with a 1941 Champion Studebaker. It has a ripping noise which sounds like a drive shaft vibration. This noise sounds very bad at about 35 miles per hour. It did it at about 50 miles before I overhauled the transmission and back end. I put both main bearings in transmission and cluster gears and main shaft. I also found some slack in ring housing. I put in a new ring gear housing assembly and spider pin and one new cup was pitted. All of the other bearings seemed to be all right.

There still seems to be a little slack and up and down play on drive shaft at rear of transmission. The drive shaft has new joints on both ends. The back end has about .010 backlash on ring and pinion.

This car doesn't make this hollow sound at 50 at all but at 35 the noise is as bad as ever and whenever you start out in low there is a jerk which sounds like a hub was loose, but I jacked the rear end up and there seems to be a little more slack from the transmission end than should be. This car has straight transmission — no overdrive. Do you think I have over-

looked something at rear end of transmission where the lost motion is coming from? — Harry H. Sommer, Sommer's Garage, 628 Lincoln Ave., Lincoln, Illinois.

NOISES of this kind are very deceiving and I feel that after checking the rear and the trans-



mission that your trouble lies in the clutch itself. I would suggest removing the clutch disc and examine the springs in it. If there is any play at all in these springs, I would suggest you replace them with a new assembly.

To Plane or Not—That Is the Question

I am writing you in regard to planing the head on my Buick. I have a very nice '41 Buick Sedanette with 42,000 miles, and I don't want to do something that might foul it up. I want to know if planing the head will give it more speed and get away and will it be safe to do this, and how much to plane off.

Will there be any difference in the valve settings, carburetor adjustment and timing? — Marshall Hunter, 1805 Grand Avenue, Ft. Smith, Arkansas.

I WOULDN'T recommend planing the cylinder head on your 1941 Buick as these jobs have ample compression now. While it is possible to plane about 1/32 of an inch off the head I wouldn't advise it, due to the octane rating of the present gasoline.

My suggestion is that you remove the cylinder head and do a first-class job on it. Reface the valves and reseal the head. Also remove all carbon deposits from valve ports and intake manifold.

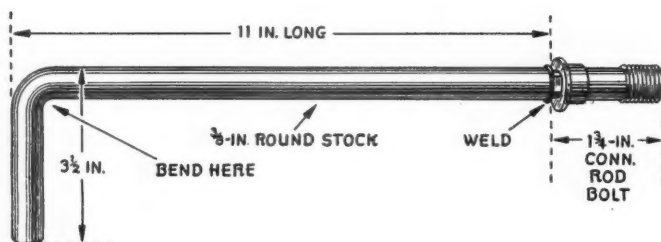
SHOP KINKS

\$25

★
FOR THE BEST KINK
PUBLISHED EACH MONTH



Simple Tool For Pulling Down Cadillac Rods



On Cadillacs I have had trouble pulling down the connecting rods from underneath after the rings were started into cylinders. The rods are hard to get a grip on and on 3 cylinders the crankshaft has to be turned while pulling down the rods. I have made a simple tool which is tops even on tight jobs. The first thing is to procure a connecting rod bolt (the inside one which is $1\frac{3}{4}$ inches long). 1936-37 cars had the screwdriver slot bolt.

Now for the kink (use the long connecting rod bolt $1\frac{3}{4}$ inches long either old or new type). If it is the old type, grind the head bolt down on an emery wheel until the screwdriver slot is gone. Take a piece of $\frac{3}{8}$ round stock and weld it to the head of the bolt.

To use the tool, screw the bolt into the connecting rod and pull the rod down over the shaft. For the 3 rods where the crankshaft has to be turned, one hand on the flywheel and the other on the tool. If the tool should be screwed into the hole where the short connecting rod bolt goes there will be crankshaft interference. *Al Ruedy, United Auto Service Co., 2300 Webster St., Oakland 12, California.*

Welding Nut to Rusted Head

On a 1937 Ford water pump, quite often the head of the cap-screw inside the hose neck is rusted off to the extent that a socket will slip on the hex head. I hold a half inch hex nut against the head with an old screw driver. Then reach inside the $\frac{1}{2}$ " nut with the arc and weld $\frac{1}{2}$ " nut to rusted head. Unscrew capscrew with $\frac{3}{4}$ " socket.

The same method can be used to remove broken off studs.—*Clifford L. Hickman, 1313 South Nevada, Colorado Springs, Colorado.*

Replacing New Gear On Old Shaft

Steering worm and tubes for some model Chrysler cars are available while others are hard to get. If you have a new shaft of the wrong length this may help, particularly if the old shaft is still good.

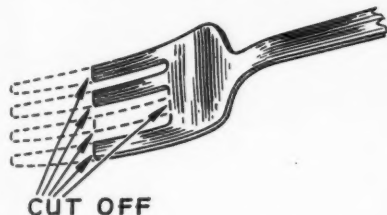
The worn gears are pressed on the steering shaft and the gears have a key machined in them. It is not hard to remove the gear from the old or the new shaft. Press the new gear on the old shaft. I have done this a number of times and it works very well. No doubt many mechanics do this but there may be some who have not thought of it yet. — *W. W. Miller, Jr., Miller Motors Inc., 5937-47 Belair Road, Baltimore 6, Maryland.*



**FOR ALL KINKS
PUBLISHED EACH MONTH**

Fork Saves Ruining Upholstery Fasteners

Use a plain heavy dinner fork to remove upholstery fasteners from car doors without pulling fasteners



from fiber backing. Alter it so as to have a wide and a narrow gap to use as needed. — *R. O. Griffith, Akins, Arkansas.*

Don't Remove Frozen Brake Fittings

On Chrysler built cars the fittings used on the ends of the steel composition brake lines on the front wheels on the ends at the flexible hoses have a tendency to become rusted, and most of the time, instead of the fitting turning on the outside of the tubing, it will have a tendency to twist the pipe off right behind the fitting and make it necessary to repair the line.

We loosen the two cap screws that hold the wheel cylinder in place and turn the wheel cylinder and hose around and just let the frozen fitting freeze on the pipe and thereby save the time and chance of

twisting off a line.—*William Ruge, Kuhlman & Nagel Service, 716 Pearson St., Des Plaines, Illinois.*

Ring Compression Aids In Assembling Transmission

I have saved much time by using a ring compressor to help assemble Ford and Mercury transmissions.

Assemble hub springs and balls using piston ring compressor to compress balls and springs. Then press the hub into the front of the sleeve.—*Melvin M. Anderson, Ford Garage, Oilton, Oklahoma.*

Replacing Chrome On Ford Windshield

To replace the chrome on a 1949 Ford windshield insert a speedometer cable into the rubber groove for the chrome, press the chrome in the rubber and remove the speedometer cable. The chrome goes in easily and cuts installation time in half. — *Frank Terry, 230 Cora Street, Allegan, Michigan.*

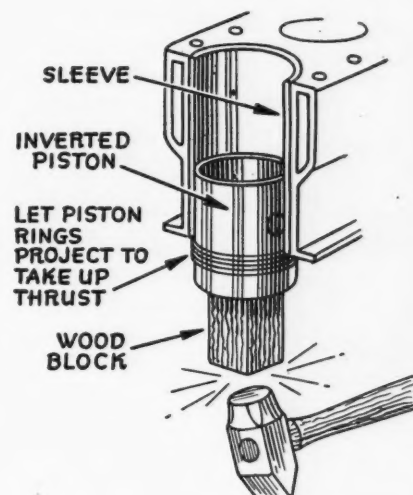
Steel Strip Holds Dome Light Switch Off

When necessary to have doors open for some time, on cars with dome-light switch on door posts, cut strip of old fender or body steel $\frac{1}{2}$ " x 2". Drill small hole on one end. Remove one screw on switch plate. Screw strip over button until

job is finished. — *S. W. Wheeler, Wheeler Body Shop, P.O. Box 341, Fort Bragg, Calif.*

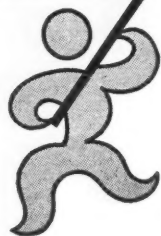
Removing Sleeves On International Tractor

When resleeving an International tractor engine you may not have a sleeve driver or sleeve puller. Insert a piston with all rings into the cylinder all the way down until the last ring comes out of the bottom of the bore. Now the piston is stuck in the cylinder, so just take a solid block of wood and a sledge hammer and commence driving on the pis-



ton. The piston and the cylinder sleeve will both come out.—*Bill Drohomer, 317 E. 10th St., Santa Ana, California.*

**MERCHANDISING
REVIEW**



Many new shop kinks and valuable tricks of the trade are being made available to all types of shops as a service-to-customers plan

by **LEONARD WESTRATE**

Briggs Offers

Body and Paint Guidance

WHEN automotive repair shops need specific information about technical procedure for servicing mechanical units of motor vehicles, they have little difficulty getting it. The manufacturers themselves issue bulletins and manuals covering in detail the con-

struction and repair of their products, and trade publications such as **MOTOR AGE**, devote considerable attention to the mechanical end of automotive service both in their magazines and in comprehensive shop manuals. While some manufacturers throw in a scattering of body repair and



1. Method for preparing and inlaying a section on a door.



2. Finished part of inlaid portion on side of body.



3. Door filled and trimmed. Masking and preparation for painting.

refinishing information, by and large this type of data is dismissed with a lick and a promise. Consequently, the body shop operator does not have available to him nearly as much assistance on his end of the business as does the strictly functional repairman.

In an effort to fill an obvious need for greater and more direct help to the body shop operator, both in dealerships and in independent operations, the Refinishing Materials Division of Briggs Manufacturing Co., under W. J. Athanson, general manager, has tied a comprehensive technical service-to-customers plan into its merchandising program. Actually, the service is not new, since it has been in effect for several years, but it is being expanded and improved in several respects.

For several years, the division has maintained a staff of chemists and mechanical specialists at the disposal of customers for advice and assistance on body repair and refinishing problems. Requests for help are answered within 24 hours by letter, telephone, or by personal call, if that is practical. Because of its nationwide

distribution system, Briggs has paint and body specialists located throughout the country.

Through its own body repair shop, Briggs has been able to get first hand practical information about the problems of the body shop operator in the field, and has been able to pass this knowledge on to its customers. By actually working on wrecked cars, the shop turns up ideas and shortcuts in body repair processes.

For example, one of the developments stressed is that considerable savings can be made in time and cost through inlaying sections of steel in a damaged panel, rather than removing the whole panel and replacing it with a new one. This method avoids torch cutting the entire panel edge, with consequent danger of blistering and swelling the adjacent metal and possibility of burning interior trim. Also, removing large body panels requires removal of bumpers, lights, interior hardware, splash pans, and other parts requiring hours of added labor to take off and replace. When a whole new panel is installed, the lineal footage requiring metal finishing is many times greater than that involved when using inlays. On one job in the Briggs shop, nine hours of metal finishing work was saved through use of an inlay panel, on which the metal finishing required was only a relatively few inches. With the new model cars featuring more and more ex-

posure of body metal, Briggs believes that the need for experienced men in the inlaying process is a highly important consideration for shop operators.

CONTINUED ON PAGE 110



4. Reducing labor time by installing a factory replacement panel.

5. Straightening the door bead with the door removed.

6. Another labor saving operation using a complete rear quarter section.





Johnson Brothers Chevrolet Company, Dallas, Texas, has two 51 foot doors which give the advantages of an open front building.

Below: D. L. Johnson and C. M. Johnson owners of the modern dealer agency at the left.



A Texas Chevrolet agency has added nearly three hundred names to its customer list through this program

by C. A. LOEFFLER

Free Lube Job Brings New Customers

BY offering a free lubrication job to each customer bringing in their newspaper ad, Johnson Brothers Chevrolet Company, Dallas, Texas, dealers, added 297 customers to their books.

Of these new customers, 151 of them made additional service purchases amounting to \$1,577.34, or approximately \$5.42 per customer, while 126 of them bought nothing additional at that time. However, a considerable amount of later business was traced to the "free lube" deal.

Further break-downs of the figures reveal that 195 of the new customers owned Chevrolets, while 82 of them owned other makes of cars.

Chevrolet owners purchased \$1,466.26 in services, while all other makes accounted for only \$91.08.

"We used this same idea some years ago, before coming to Dallas," D. L. Johnson, one of the owners, said. "The early free lube jobs were given out in the name of the company. However, we now believe that better results are obtained when the ads are worded so that the invitation for the free job comes from one of the service salesmen. Under those conditions, the salesman takes more interest in the transaction, and it provides a good point of contact between customer and salesman.

"During the month we ran the ad," he continued, "the parts department had the biggest month's sales volume it ever had."

Joe Seeber, service department manager who has been with the firm since 1931, is equally enthusiastic about the idea.

"It is one of the best traffic stimulators the firm has ever had," he said, and he should know, for he has seen Johnson Brothers service sales increased from a modest \$1,800 per month back in the nineteen-thirties, to a current high of

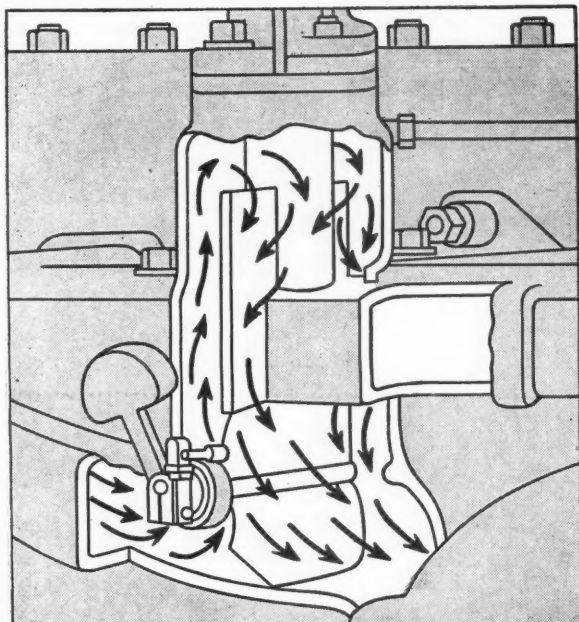
CONTINUED ON PAGE 98



**These two silhouettes identify
America's most distinctive
new look in cars and trucks**

Studebaker

FIRST BY FAR WITH A POSTWAR CAR . . . FIRST BY FAR WITH NEW 1949 TRUCKS



Phantom view of the exhaust manifold, showing the butterfly valve in the open position, which allows the exhaust gasses to heat the intake manifold.

Many symptoms which would indicate the necessity for a costly tune-up might be traced to the manifold heat valve, which may become inoperative

by ARTHUR H. NELLEN, JR.

THE most perfect tune-up falls short of being complete when the manifold heat valve is neglected. This simple little part is often overlooked until it attracts attention by squeaking, or sticking in one position. This is why this valve is so important:

If there were no means to heat the fuel as it leaves the carburetor on a cold engine, the intake manifold would be slow to warm up, the fuel would not vaporize properly, and would enter the cylinder partly raw. This would cause the engine to run rough, and would induce excessive choking. The results are obvious—high fuel consumption, oil dilution, excessive cylinder wear, uneven distribution of the fuel to the cylinders, and generally poor operation prior to warming up.

Therefore, engines are equipped with a thermostatically controlled valve which, when the engine is cold, bypasses the hot exhaust gasses up into a chamber surrounding the intake manifold. The valve also closes during high exhaust pressure, thus reducing back pressure. This continues to heat the vaporized fuel as it leaves the carburetor until the heat from the engine causes the thermostat coil spring to lose its tension. The decrease in spring tension permits a counterweight, which is attached to the butterfly valve shaft, to gradually change position, thus closing

A Hot Tip on Heat Risers

off the passage to the heat chamber as it warms up.

But supposing the manifold heat valve has become rusted and stuck in the open position. The exhaust gasses will continually flow through the heating chamber, thus causing the vaporized fuel-air mixture, as it leaves the carburetor, to expand to several times its normal volume. This greatly decreases the volumetric efficiency. The cylinder cannot get its full charge and the engine loses power. The overheating may also cause detonation and sticking valves. At the same time, the butterfly valve in this open position will increase the exhaust back-pressure, further reducing efficiency.

If the manifold heat valve sticks in the closed position, the results are the same as those summarized for the total absence of a heating device, as mentioned in the beginning of this article.

All of these effects can be caused by an improperly working manifold heat control valve. Finding out whether or not it is working properly, however, is an easy job. With the car cold, see that it works freely by moving it from open

CONTINUED ON PAGE 96

THERE'S MORE PROFIT IN THE **COMPLETE** KING LINE

The King Line includes Pistons, Pins, Motor Bearings, Valves, Cylinder Sleeves, Water Pumps and Parts, Front End Parts and Shackles...all in one catalog from one jobber. That's real service!



KING QUALITY

"Building for the future on a 28 year record"

SAINT LOUIS 10, MISSOURI



PISTONS • PINS • VALVES • BEARINGS • WATER PUMP PARTS

BOLTS • BUSHINGS • SILENT-U SHACKLES • SLEEVES • WHEEL SUSPENSION PARTS

Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment as of August 7. State or local taxes, transportation and finance charges and optional equipment are extra.

BODY, MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY, MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY, MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
BUICK					FORD					OLDSMOBILE (Continued)				
Series 43					Six					Series 98 (Eight)				
Sedan, 2d.	1615	120	1735	3635	Business Coupe	1158	94	1252	2876	Club Sedan	1940	138	2078	3645
Touring Sedan, 4d.	1685	124	1809	3705	Tudor	1308	102	1410	2957	Sedan, 4d.	2010	141	2151	3705
Series 50					Club Coupe	1328	104	1432	2910	Club Sedan, DeLuxe	2040	142	2182	3685
Sedan, 2d.	1845	142	1987	3770	Fordor	1368	106	1474	3012	Sedan, 4d., DeLuxe	2110	146	2256	3745
Touring Sedan, 4d.	1940	147	2087	3855	Custom Six					PACKARD				
Convertible Coupe	2350	168	2518	4020	Tudor	1415	108	1523	2957	Eight-2201				
Estate Wagon	2925	199	3124	4170	Club Coupe	1435	109	1544	2910	Club Sedan	2117	133	2250	3755
Series 70					Fordor	1480	112	1592	3012	Touring Sedan	2140	135	2275	3815
Sedan, 2d.	2125	172	2297	4065	Convertible Coupe	1759	127	1886		Station Sedan	3232	193	3425	4075
Touring Sedan, 4d.	2240	178	2418	4160	Station Wagon	1980	139	2119	3518	DeLuxe Eight-2211				
Convertible Coupe	2638	199	2837	4315	Eight					Club Sedan	2370	147	2517	3770
Estate Wagon	3205	228	3433	4460	Business Coupe	1330	04	1434	2925	Touring Sedan	2395	148	2543	3840
CADILLAC					Tudor	1390	107	1497	3006	Super Eight-2202				
Series 61					Club Coupe	1430	109	1539	2960	Club Sedan	2635	167	2802	3790
Club Coupe, 2d.	2565	163	2728	4090	Fordor	1450	110	1560	3061	Touring Sedan	2659	168	2827	3855
Touring Sedan, 4d.	2665	168	2833	4175	Custom Eight					Super Eight-2222				
Series 62					Tudor	1490	112	1602	3006	Touring Sedan	3299	201	3500	4460
Club Coupe, 2d.	2735	177	2912	4120	Club Coupe	1515	114	1629	2960	Limousine	3442	208	3650	4525
Touring Sedan, 4J.	2815	181	2996	4205	Fordor	1550	116	1666	3061	Touring Sedan, DeLuxe	3632	218	3850	4590
Convertible Coupe, 2d.	3240	202	3442		Convertible Coupe	1835	131	1966		Limousine, DeLuxe	3774	226	4000	4610
Series 60					Station Wagon	2118	147	2265	3567	Super Eight-2232				
Touring Sedan, 4d.	3590	230	3820		FRAZER					Conv. Victoria Coupe	3061	189	3250	4025
Series 75					Sedan, 4d.	2321	162	2483	3375	Custom Eight-2206				
Business Sedan	4395	284	4679		Manhattan, 4d.	2573	173	2746	3375	Club Sedan	3484	216	3700	4110
Touring Sedan, 4J.	4490	289	4779	4890	HUDSON					Touring Sedan	3532	218	3750	4175
Business Imperial	4575	293	4858	4945	Super Six					Custom Eight-2236				
Sedan, 4d., 7p.	4700	299	4999	4910	Coupe, 3p.	1855	132	1987	3460	Touring Sedan	4440	264	4704	4860
CHEVROLET					Brougham	1940	137	2077	3470	Limousine	4596	272	4868	4880
Stylemaster					Club Coupe	1985	139	2124	3480	Custom Eight-2233				
Business Coupe	1160	84	1244	3045	Sedan	1988	139	2127	3500	Conv. Victoria Coupe	4051	244	4295	4380
Town Sedan, 2d.	1225	88	1313	3095	Commodore Six					PLYMOUTH				
Sport Coupe	1235	88	1323	3020	Club Coupe	2130	147	2277	3550	DeLuxe				
Sport Sedan, 4d.	1280	91	1371	3115	Sedan	2153	148	2301	3540	Coupe, 3p.	1272	74	1346	2977
Fleetmaster					Super Eight					Sedan, 2d.	1307	76	1383	3047
Town Sedan, 2d.	1290	91	1381	3110	Club Coupe	2090	150	2240	3495	Club Coupe	1332	77	1409	3037
Sport Coupe	1310	92	1402	3050	Sedan	2093	150	2243	3525	Sedan, 4d.	1362	79	1441	3082
Sport Sedan, 4J.	1345	94	1439	3150	Commodore Eight					Special DeLuxe				
Cabriolet	1640	110	1750	3340	Club Coupe	2230	157	2387	3570	Coupe, 3p.	1362	78	1440	2982
Station Wagon	1890	123	2013	3405	Sedan	2253	158	2411	3600	Sedan, 2d.	1392	79	1471	3062
Fleetline					KAISER					Club Coupe	1422	81	1503	3057
Aerosean, 2d.	1340	94	1434	3100	Sedan, 4d.	2091	153	2244	3302	Sedan, 4d.	1447	82	1529	3102
Sportmaster, 4J.	1395	97	1492	3150	Custom Sedan, 4J.	2301	165	2466		Convertible Coupe	1758	99	1857	3282
CHRYSLER					LINCOLN					Station Wagon	1958	110	2068	
Royal-Six					Coupe, 6p.	2450	183	2633	3990	PONTIAC				
Coupe, 2d., 3p.	1723	96	1819	3395	Sport Sedan, 4	2495	186	2681	4060	Torpedo Six				
Lux. Brougham	1838	100	1938	3485	Convertible, 6p.	2910	207	3117	4330	Business Coupe	1397	103	1500	3230
Club Coupe	1833	101	1934	3475	Cosmopolitan					Sport Coupe	1446	106	1552	3220
Sedan, 4d., 6p.	1833	102	1935	3523	Coupe, 6p.	3075	217	3292	4275	Sedan, 2d.	1475	108	1583	3280
Sedan, 8p.	2235	125	2360	3925	Town Sedan, 4	3125	219	3344	4315	Sedan Coupe	1505	109	1614	3275
Limousine, 4d., 8p.	2375	131	2506	4022	Sport Sedan, 4	3125	219	3344	4420	Sport Coupe, DeLuxe	1531	110	1641	3250
Windsor-Six					Convert ble, 6p.	3800	254	4054	4505	Sedan, 4d.	1531	110	1641	3320
Coupe, 2d., 3p.	1735	99	1884	3395	MERCURY					Sedan Coupe, DeLuxe	1590	114	1704	3275
Lux. Brougham	1835	104	1939	3510	Coupe, 6p.	1945	140	2085	3375	Sedan, 4d., DeLuxe	1616	115	1731	3340
Club Coupe	1835	105	2000	3475	Sport Sedan, 4J.	1975	141	2116	3430	Conv. Sedan Coupe, DeLuxe	1895	130	2025	3525
Sedan, 4d., 6p.	1915	106	2021	3528	Convertible, 6p.	2375	162	2537	3699	Streamliner Six				
Traveler Sedan	2050	113	2163	3310	Station Wagon	2645	176	2821	3758	Sedan Coupe	1564	113	1677	3385
Convertible Coupe	2239	125	2434	3633	NAH					Sedan, 4d.	1612	115	1727	3450
Sedan, 4d., 8p.	2307	127	2434	3335	600-DeLuxe					Sedan Coupe, DeLuxe	1649	117	1766	3370
Limousine	2427	134	2561	4035	Business Coupe, C.	1373	105	1478	2635	Sedan, 4d., DeLuxe	1697	120	1817	3455
Saratoga-Eight					600-Super					Station Wagon	2217	147	2364	3735
Coupe, 2d., 3p.	2052	113	2165	3817	Brougham	1433	105	1538	2731	Station Wagon, DeLuxe	2291	151	2442	3695
Lux. Brougham	2137	117	2254	3900	Sedan, Trunk; 4J.	1482	105	1597	2786	Torpedo Eight				
Club Coupe	2147	118	2265	3930	Slipstream Sedan, 4J.	1438	105	1543	2826	Business Coupe	1442	106	1548	3295
Sedan, 4d., 6p.	2172	119	2291	3972	600-Custom					Sport Coupe	1491	108	1599	3295
New Yorker-Eight					Brougham, 2d.	1613	114	1727	2731	Sedan, 2d.	1520	110	1630	3360
Coupe, 2d., 3p.	2166	119	2285	3837	Slipstream Sedan, 4J.	1618	114	1732	2826	Sedan Coupe	1550	111	1661	3340
Lux. Brougham	2251	123	2374	3932	Sedan, Trunk; 4d.	1662	114	1776	2786	Sport Coupe, DeLuxe	1576	113	1689	3305
Club Coupe	2261	124	2385	3940	Ambassador-Super					Sedan, 4d.	1576	113	1689	3395
Sedan, 4d., 6p.	2236	125	2411	3987	Brougham, 2d.	1733	125	1858	3312	Sedan Coupe, DeLuxe	1635	116	1751	3340
Convertible Coupe	2670	145	2815	4132	Slipstream Sedan, 4J.	1749	125	1874	3412	Sedan, 4d., DeLuxe	1661	117	1778	3395
Town and Country-Eight					Sedan, Trunk; 4d.	1791	125	1916	3387	Conv. Sedan Coupe, DeLuxe	1940	132	2072	3600
Convertible Coupe	3221	174	3395	4332	Ambassador-Custom					Streamliner Eight				
Crown Imperial-Eight					Brougham, 2d.	1913	134	2047	3312	Sedan Coupe	1609	115	1724	3425
Sedan, 8p.	4428	234	4662	4865	Slipstream Sedan, 4J.	1929	134	2063	3412	Sedan, 4d.	1657	118	1775	3525
Limousine	4528	239	4767	4875	Sedan, Trunk; 4d.	1971	134	2105	3387	Sedan Coupe, DeLuxe	1694	120	1814	3455
CROSLEY					Cabriolet	2198	147	2345	3465	Sedan, 4d., DeLuxe	1742	122	1864	3530
Sedan, 2d.	888			1115	OLDSMOBILE					Station Wagon, DeLuxe	2262	150	2412	3820
Convertible	949			1110	Series 66 (Six)					Station Wagon, DeLuxe	2336	154	2490	3765
DE SOTO					Club Coupe	1500	109	1609	3240	STUDEBAKER				
De Luxe					Club Sedan	1525	109	1634	3285	Champion DeLuxe				
Coupe, 2d., 3p.	1610	89	1699	3285	Sedan, 4d.	1565	112	1677	3320	Coupe, 3p.	1432	103	1535	2580
Sedan, 2d.	1695	93	1788	3375	Club Coupe, DeLuxe	1635	114	1749	3255	Sedan, 2d.	1497	107	1604	2675
Club Coupe	1720	95	1815	3385	Sedan, DeLuxe, 4d.	1660	116	1776	3300	Coupe, 5p.	1522	108	1630	2670
Sedan, 4d.	1730	95	1825	3435	Station Wagon	1700	118	1818	3335	Sedan, 4d.	1527	109	1636	2720
Custom					Series 76 (Six)	2455	159	2614	3620	Champ. Regal DeLuxe				
Brougham	1763	97	1860	3399	Club Sedan	1610	116	1726						

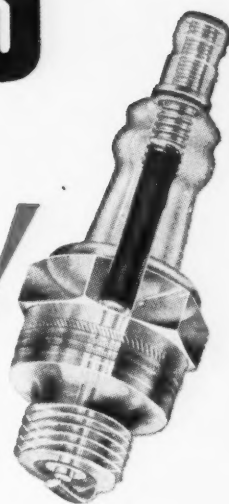
Sensation of the Year

AUTO-LITE

Resistor

SPARK PLUGS

Ask Your Jobber Today!



Dealers Drive CONTINUED FROM PAGE 37

officials, civic leaders and the public in general.

The advertising campaign served as a great public relations instrument in convincing the public of the dangers of permitting teenagers to buy jalopies that are unsafe for operation.

Much public good-will was earned by C.A.T.A. and its members when

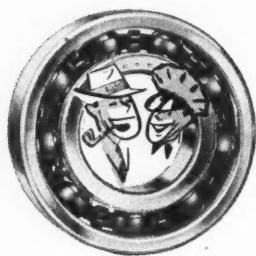
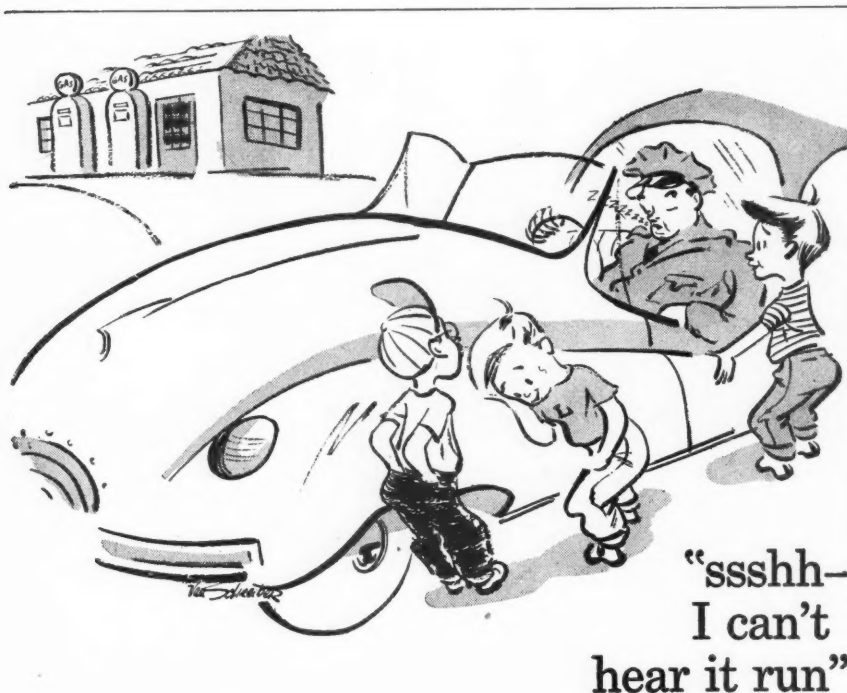
80% of the C.A.T.A. membership boldly displayed huge posters in their windows which illustrated an old, unsafe car and bearing the bold headline—"Not for Sale." Listed on the poster was the pledge and the emblem of the C.A.T.A. membership. Ten large size advertisements appeared in four leading Chicago newspapers. Dealers ac-

tively participating in a publicity drive found the support of other civic associations who were willing to cooperate in the safety drive.

It was estimated that approximately 500 old cars were scrapped every business day during the campaign.

William Reagan, Chrysler-Plymouth dealer of Chicago, and president of C.A.T.A., led the campaign with the following highway safety committee: Robert J. O'Donnell, Chairman, O'Donnell Motor Sales (Hudson); Edward L. Cleary, Co-Chairman, Chicago Automobile Trade Association; Victor A. Beckman, Roseland Auto Sales Co. (Pontiac); M. F. McCarty, International Harvester Co. (Trucks); Fred G. Litsinger, Litsinger Motor Co. (Ford); H. B. O'Neal, Studebaker Sales Corp. of America (Studebaker); F. W. Patterson, Ajax Auto Co. (Oldsmobile); W. J. Schmitt, Dampman-Schmitt Co. (Dodge).

Most dramatic incident in the safety campaign was the parade of junkers which were towed through the city streets and out to Northerly Island where they were heaped in a tremendous pile and burned. Northerly Island, site of the 1933-34 World's Fair, was off the Lake Shore and crowds were attracted to view the funeral pyre of the junkers.



THAT'S RIGHT . . . THEY'RE RIGHT

And so are the thousands of users who specify Federal Ball Bearings for quiet running in so many automotive applications. Federals are original equipment bearings available in every range and size.

Next time you order—order Federals. There's an NAPA jobber near you. He carries the complete line of Federal Ball Bearings. Why not call him now?

THE FEDERAL BEARINGS CO., INC.
Poughkeepsie, New York

Makers of Fine Ball Bearings

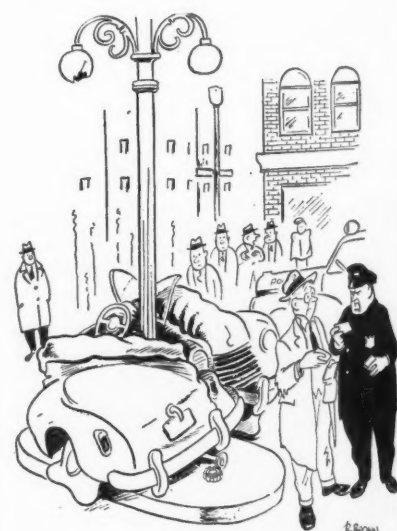
Distributed Nationally Through
LOCAL N.A.P.A. WAREHOUSES AND JOBBERS



Quality since 1908

FEDERAL BALL BEARINGS

ONE OF AMERICA'S LEADING BALL BEARING MANUFACTURERS



"So you're the State Champion horseshoe pitcher, eh?"

MOTOR AGE, SEPTEMBER, 1948



for Safety's Sake **RELINE** with **WAGNER** **CoMaX BRAKE LINING**

Do a better brake job...help reduce automobile accidents.

You have everything to gain in standardizing on Wagner CoMaX for all your brake lining requirements. There is no brake assignment too tough for this rugged lining. It is unsurpassed for long-wearing qualities and quick, safe, smooth stops.

This line of superior friction material provides *complete* coverage for all passenger car, truck and bus requirements. Available in rolls, sets, blocks, slabs and cut segments. At Wagner jobbers everywhere.

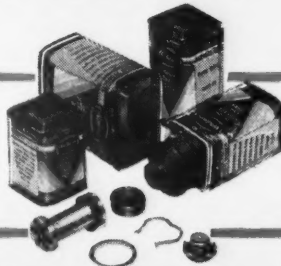
Wagner Electric Corporation
6498 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A

EVERY REPAIRMAN NEEDS

Bulletins HU-17G and HU-197...Tips for better Brake Service — free on request

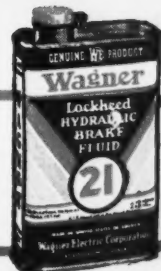
REPAIR

with genuine Wagner Lockheed Brake Parts.



REFILL

with Wagner Lockheed Hydraulic Brake Fluid.



LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRul
CoMaX BRAKE LINING • AIR BRAKES • TACHOGRAPHS
ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES

U. S. Employment Service Emphasizes Fine Record of the Physically Handicapped

VERY few of us are physically perfect. Some physical defects are obvious, while others are invisible. However, very few jobs require the use of all of an individual's physical faculties. The United States Employment Service recognizes the validity of these facts. They analyze the physical requirements of jobs, and then de-

termine exactly what type of physical activity is required of a worker performing a specific job. In other words, they take inventory of the job in terms of the amount and type of physical activity expended, for example: walking—5 per cent; jumping—1 per cent; bending—25 per cent; reaching—15 per cent, and so forth.



QUICK TURNOVER!

Stocks that gather dust don't gather profits. A sure springboard to fast turnover is a complete stock of Schrader Products—particularly the New Display Packages of Caps, Cores and Gauges. Set up your Displays of the Schrader Products where they will be seen . . . and you'll make

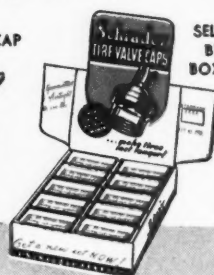
many extra sales—extra profits!

Schrader advertising in National Consumer, and Farm publications tells vehicle owners to "look for and buy from these Schrader Displays at your dealers." Tie in with this timely advertising for quicker turnover—order from your regular supplier today.

Sell a Schrader Gauge to Every Vehicle Owner

The Complete Line—ONE SOURCE ONE RESPONSIBILITY

Tire Valves, Valve Caps, Valve Cores, Tire Pressure Gauges, Chuck Gauges, Couplers, Blow Guns, Air Chucks, Vulcanizers, Service Tools, Hose Fittings, Spark Plug Pumps, Accessories.



A. SCHRADER'S SON • BROOKLYN 17, NEW YORK

Division of Scovill Manufacturing Company, Incorporated

Originators of the Comparative Air Loss System for Flat Tire Prevention

When a worker registers for work with one of the local offices of this Agency, the interviewer determines just what type of work the individual can do—not only in terms of training and experience factors, but in terms of physical abilities as well. Just as workers vary with respect to the amounts and types of training and experience which they have had, so they vary physically. When assistance is required in inventoring the capacities of a physically handicapped applicant, the services of a medical doctor are obtained.

The Employment Service over the years has found that workers with some type of physical impairment can perform very successfully provided, of course, this matching of the physical demands of the job and the physical capacities of the worker has been accomplished.

Too often the public in thinking of the physically handicapped worker, concentrates on the physical disability and is inclined to consider immediately the things which the worker cannot do or might not be able to do. Too often standard physical examinations are required without regard to the variety of physical activity which the workers will be required to perform in different jobs.

Thousands of physically handicapped workers have been placed

CONTINUED ON PAGE 76



"Not only do we guarantee the tire, we guarantee the guarantee!"

for
ices
wer
work
y in
ence
sical
kers
ants
peri-
they
ance
the
ndi-
of a

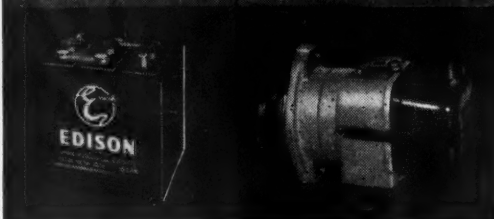
over
kers
pair-
fully
hing
e job
the
l.
king
oped
phys-
d to
ings
o or
often
s are
the
which
d to
andi-
laced
GE 76

behind these great products...

a great
American scientist



- New, Quick-Cooling Aluminum Oxide Insulator with Wider Heat Range.
- Only an Edison has the Patented "SPUN-ON" Leakproof Gasket.



The New Edison
"Extra Heavy Duty"
Battery

The
New Edison
"AJ" Magneto

EDISON

Thomas A. Edison

Thomas A. Edison, Incorporated
Automotive Division
West Orange, New Jersey

You can always rely on an Edison

Record of Handicapped . . . CONTINUED FROM PAGE 74

by the Employment Service. This is part of their regular selective placement program. The following are but a few of those who have made outstanding records:

Anna B. is an inspector of film. She is blind.

Bill O. is a hat former. He is a partial leg amputee.

Mary L. is a receptionist. She

is an infantile paralysis victim. James J. assembles and tests radio headphones. He wears braces on both legs.

Maurice D. is a machine operator. He is a spastic paralysis case.

Richard W. is a salesman and often acts as plant foreman. He is a double leg amputee.

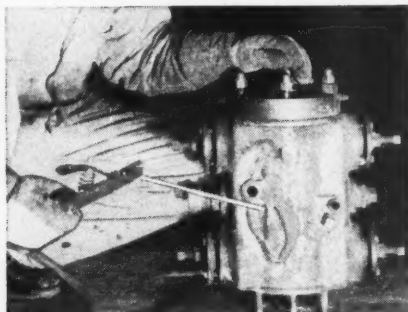
Pat McC. is a production manager. He has a crippled leg. Marcella C. operates an addressograph. She has only one hand. William Z. is a supervisor of the tub department of a laundry. He is an arm amputee.

Jeff C. is a burring machine operator. He is blind.

During the war period particularly when manpower was short, employers found that these workers were not only satisfactory but in some respects superior to those with no physical impairments. Employers have had this same experience with physically handicapped servicemen. Today employers are finding that it pays to hire physically handicapped workers. Some employers thought that the accident rate for this group would be higher and that, therefore, they represented a "risk." The records tell another story. One-third fewer accidents on the job were experienced by handicapped workers than by those with no physical handicaps exposed to identical work hazards. The accident frequency rate for impaired workers was 8.3 per 1,000,000 man hours compared to 11.8 injuries for the unimpaired. Production records have proved slightly better than those of the non-physically impaired performing similar records and more than half stayed on the job longer.

CONTINUED ON PAGE 78

New Lowest Cost Welder Handles All Garage Repairs

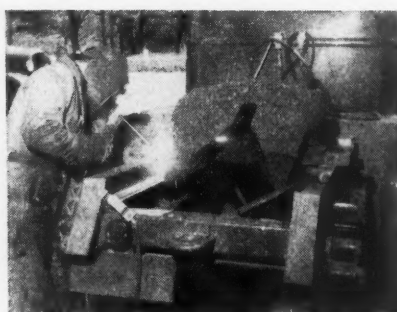


Welds Cast Iron. The garage or service shop with an arc welder can quickly weld-repair all types of broken cast iron parts like automobile cylinder heads, transmission housings or this gas engine cylinder jacket. A broken wall in the above cylinder had six pieces out, but was fitted together and welded good as new with "Ferro weld" electrode.

Welding Broadens Customer Service. Garages, service stations and body repair shops everywhere today are making full use of arc welding to provide complete service to customers by weld-repairing bumpers, replacing broken carrier brackets, fixing cracked fenders and hundreds of other similar jobs. With the new easy-to-use Lincoln arc welders, motor service shops are rapidly attracting new customers and boosting their current business incomes.

Lowest Cost Welder. Only the new "Lincwelder" 180 amp. AC has many exclusive features found in famous Lincoln industrial welders, yet sells for only \$150.00, the lowest cost of any welder of this capacity.

World's Easiest Welding. Users report that anyone can weld a bead in a few minutes with this new, sensational welder.



Improves Fifth Wheel. The height of the frame of this trailer tractor is raised 3" by arc welding "F" beams to each side with "Flectweld 5" electrode. Skid rails are welded to the ends, permitting the trailer to "ride up" on the sides more easily.

As the electrode touches the work, "Lincwelder's" exclusive "arc booster" automatically starts the arc . . . eliminating bothersome plate scratching. From there on, "Lincwelder's" unusually stable arc enables smooth, fast welding until the job is finished.

Easy to Install. "Lincwelder" plugs into any 230 volt power line. Input is limited to 37 amps. when welding. Approved by the power companies and REA.

Selects Exact Current. Any exact welding current is quickly selected from a broad range of 20 to 180 amps. . . . no plugs to shift or taps to change.

See It . . . Try It. On display at your local Lincoln Weldealer. Ask for Bulletin 370. Write The Lincoln Electric Company, Dept. 325, Cleveland 1, Ohio.

SEE IT! TRY IT!

PRICE
\$150
FREIGHT
PREPAID

Lowest Priced
Welder



"Lincwelder" 180 A.C.
with the amazing
"Arc Booster"

World's
Easiest
Welding

Accessories as shown \$19.00



Genuine Ford Parts...

Bring in the Business!

Identical twins to the parts built into Ford cars and trucks at the factory, Genuine Ford Parts are *right* for Fords. That's why Ford owners like Genuine Ford Parts best. You can bring in more Ford service business if you stock Genuine Ford Parts—made right to fit right, last longer!



Independent Garages...

Use These Ford Parts Sales Aids

There's a big variety of special Ford Parts sales aids, special parts catalogs, quick reference wall charts, ready to go to work for you. See your Ford Dealer or Parts Distributor about teaming up with this business-building program. Display the Genuine Ford Parts Sign for more Ford Service business.

Genuine Ford New Distributor ...Made Right...Priced Right!

Precision built in every part... rigidly inspected for long life. Dual automatic spark control. Corrosion resistant heat-treated cam with mirror finish. Finest quality tungsten contact points... oil tempered steel breaker spring... phenolic rotor stands 12,000 volt test without failure.

Genuine Ford Parts...

Right for FORDS!

F O R D M O T O R C O M P A N Y

MOTOR AGE, SEPTEMBER, 1948



"I KEEP HEARING SHRIEKS"

EVEN chronic "horn blowers" and "engine racers" become irritated by a persistent squeal or hum. When caused by faulty bearing action, the solution is simple—

That's your cue to call on BCA's Swishy—he can change a whine to a wisp of a whisper.

He'll show you why manufacturers choose BCA Ball Bearings to give new cars and trucks their swift, sure, smooth, silent performance.

AND HE'LL REMIND YOU:



BCA

Bearings Company of America, Lancaster, Pa.

Record of Handicapped

CONTINUED FROM PAGE 76

Each day the Employment Service successfully places these workers, and employers are loud in their praise of them. Today several hundred thousand are unemployed and actively seeking work through the offices of the State Employment Services throughout the country. It goes without saying that many of these are veterans.

There is another side to the story and one equally important. Those who are physically handicapped should be given training which will fit them for some type of employment. It should be remembered that these individuals require the same food, clothing, shelter as the unimpaired. If they cannot themselves earn these things then they must be provided by the Community.

Once a year the President by proclamation sets aside the first week in October as "National Employ The Physically Handicapped" Week. The purpose of this special emphasis is to make the nation conscious of the employment qualifica-

CONTINUED ON PAGE 80



"You can't miss it, Buddy—just follow your nose!"



Super-safe

The anti-freeze selling season is only a few weeks away —
are you ready for it?

Yes — there's more **SUPER PYRO** this year *but still not enough for everyone* because more and more people are going to demand a **SAFE** anti-freeze!

And every day, every week, every month we're going to tell them with an even greater advertising campaign in newspapers—in magazines—on posters—that **SUPER PYRO** is America's **SUPER-SAFE** Anti-Rust, Anti-Freeze!

So be **SUPER-SAFE** yourself—and order your supply before it's too late!



U. S. INDUSTRIAL CHEMICALS, INC.



Record of Handicapped . . . CONTINUED FROM PAGE 78

tions of those with physical impairments, to enlist the cooperation and consideration of employers in hiring these workers and to inform the physically handicapped of the placement, training and counseling facilities available to them throughout the country.

In every community the Employment Service spearheads the action

during the week. It organizes committees made up of interested government and social agencies, training institutions, civic groups, etc. Widespread publicity programs are undertaken and concentrated campaigns are launched to place more of the physically handicapped workers in suitable jobs. And every year the effect of this

emphasis is felt. During "National Employ the Physically Handicapped" Week and, in fact, during the entire month, more of these workers obtain jobs.

However, this program is not one which should be given attention for a day, week or month. It is a long-range and continuing program. Employers and the community should be constantly alerted to the problem of employment for the physically handicapped. The program pays dividends. It has been proven that these workers are not only satisfactory but in many cases superior to those with no physical impairments. In addition the community benefits by having these individuals gainfully employed.

NEW HOPE BIN END DISPLAYS—

ALL STEEL

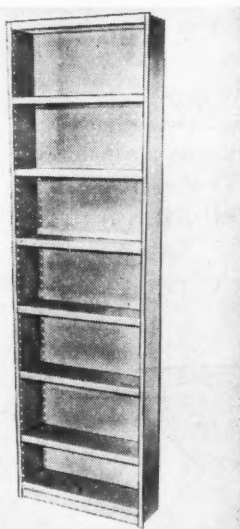
- SELL MORE ACCESSORIES
- PROVIDE EXTRA STORAGE SPACE • DRESS UP THE PARTS DEPARTMENT

● Display and sell more packaged items, accessories, etc. with this steel Hope Bin End Display. Bolts on any make parts bin. Size: 7-1/2" deep, 84" high, 24" wide. Eight shelves furnished per bin. Shelves adjustable on 1-1/2" centers. Dust-proof closed-in base. Available in combination of any of following colors: gray, green, buff, (white backs if desired).

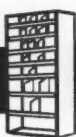
\$33.33

FREIGHT PREPAID
(Built up and crated)

**IMMEDIATE
DELIVERY**



HOPE
METAL PRODUCTS, INC.
1507 ROCKWELL AVE.
CLEVELAND 14, OHIO



Parts
Bins



Commercial
Shelving



Storage
Cabinets



Boost in Cost of Lead May Up Gasoline Price

Price of gasoline may be headed still higher. Ethyl Corporation has announced that on Oct. 16 the price of Ethyl anti-knock compound will be boosted 7½ per cent for use in automotive gasoline. The boost will be the second this year, since the price was increased July 1. Higher costs for materials and labor are said to be the reason for the upcoming price increase.



Why take less?

Monmouth is best!

TO save time and money on replacement jobs use Monmouth bearings because—Monmouth Bearings are made by The Cleveland Graphite Bronze Company, universally acknowledged world's leading bearing manufacturers.

These bearings are exact duplicates—in design, material and quality—of the original equipment bearings used by leading passenger car, truck, bus and tractor manufacturers.

Monmouth bearings are designed and built to meet the exact conditions of heat, pressure and speed developed in the engine for which they are specified.

Monmouth Bearings are supplied in the fol-

lowing types: Micro; Steel Back, Babbitt Lined; Steel Back, Cadmium Nickel Lined; Steel Back, Copper Lead Alloy Lined and Clevite 77.

They are furnished in correctly dimensioned, standard undersize numbers, also in thirty and sixty thousandths undersize resizable form for those who line bore.

Monmouth Bearings are distributed by progressive NAPA Jobbers coast to coast—admitted the most efficient distribution of automotive replacement parts.

Thus, with Monmouth Bearings you get supreme quality and value, time saving assembling, efficient supply service. Why take less?



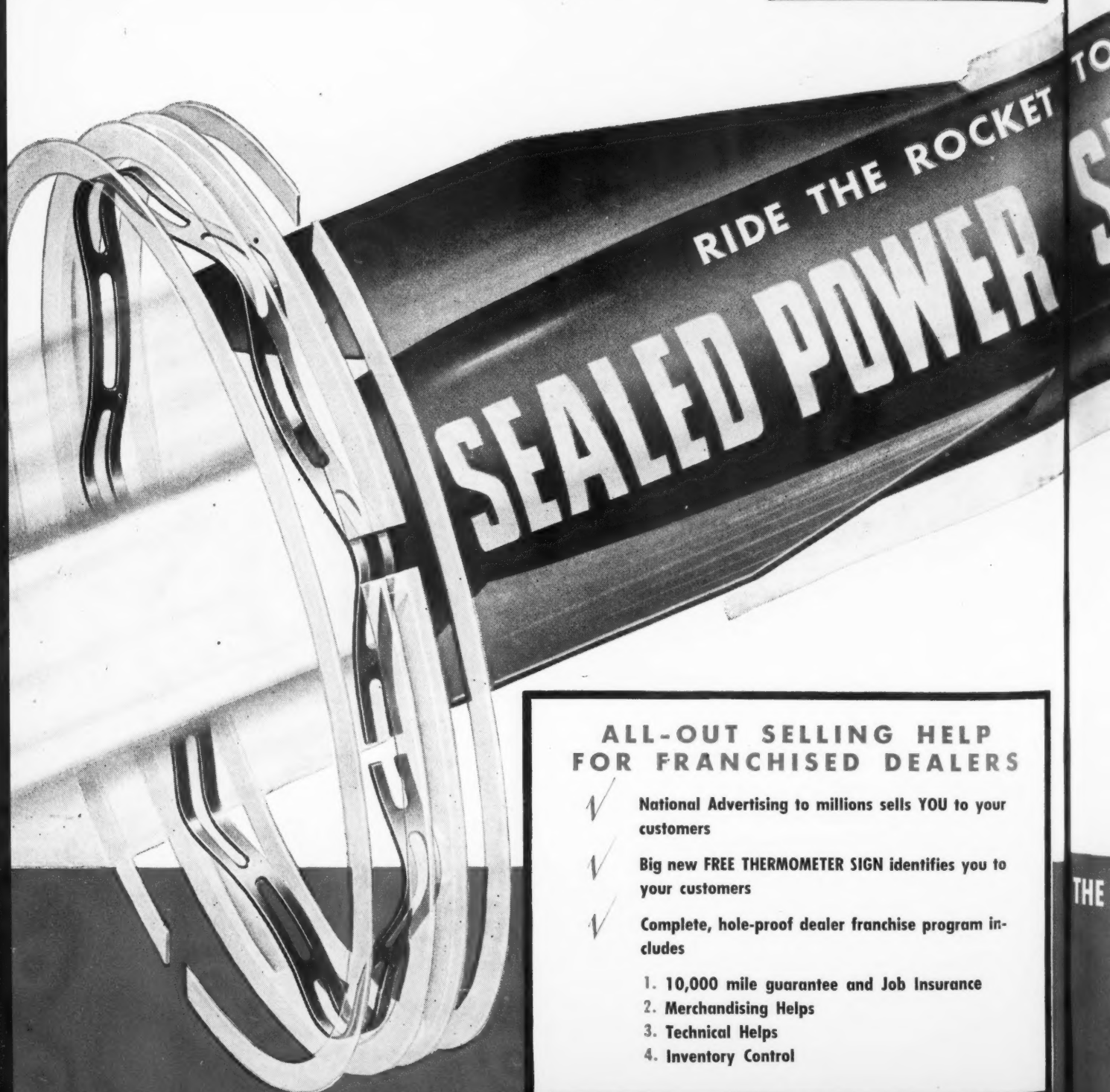
Your NAPA Jobber is a Good Man to Know!

MONMOUTH PRODUCTS COMPANY, Cleveland 3, Ohio

**FOR ENGINE BEARINGS
CLUTCH PLATES AND PARTS
CHASSIS PARTS**



NEVER BEFORE SO AND TO SELL WITH



ALL-OUT SELLING HELP FOR FRANCHISED DEALERS

- ✓ National Advertising to millions sells YOU to your customers
- ✓ Big new FREE THERMOMETER SIGN identifies you to your customers
- ✓ Complete, hole-proof dealer franchise program includes
 1. 10,000 mile guarantee and Job Insurance
 2. Merchandising Helps
 3. Technical Helps
 4. Inventory Control

MUCH TO SELL -



SEALED POWER MD-50 STEEL OIL RING

The only ring with the

FULL-FLOW SPRING

1. Insures improved oil economy
2. Gives more spring action to steel segments
3. Leaves all slots and holes open
4. Maintains tension for varied groove depth
5. Has greater bearing area for longer life
6. Retains original efficiency for life of ring

Available in Sealed Power Individually Engineered "X" Sets

Sealed Power Corporation, Muskegon, Mich.
In Canada: Stratford, Ontario



THE BEST PRODUCTS · THE BEST PROGRAM · TO MAKE MORE MONEY FOR YOU

Sealed Power

PISTON RINGS

BEST IN NEW CARS!

BEST IN OLD CARS!

in a reduction in the number of parts from 68 to 16.

Cooling fins in the radiator have been completely shrouded, resulting in nine per cent increase in cooling efficiency as well as providing better air flow. A new side-mounting of the radiator eliminates tie rods and improves access to the engine. Engine splash shields, with remov-

able covers for quick engine accessibility, have been enlarged and protect the engine from "drowning out" when driving through water.

Other mechanical improvements include redesigned accelerator linkage which gives a lighter touch to the accelerator pedal, a more compact air cleaner, improved tappets

for easier adjustment, improved crankcase ventilation, new muffler and exhaust pipes, and new routing of the fuel line to prevent vapor lock due to manifold heat.

Longer front coil springs and an improved rear leaf spring suspension have been designed to improve the ride characteristics.

The Kaiser models have also taken on a number of chassis changes. Refinement in steering has been made by redesigning the pitman arm, reducing the turning circle and decreasing the tendency to develop play in the steering wheel.

A constantly decreasing brake pedal ratio has been incorporated to provide controllable non-grab braking action. This provides a high initial ratio or normal traffic stops with a soft yielding pedal, and a low final ratio for hard emergency braking. Pedal pressure has been reduced by 18 per cent.

The most noticeable change in body design is the new grille, which has horizontal bars. Combined with a massive wrap-around front bumper, it provides an entirely new front end appearance for the Kaiser line. The grille also includes large parking lights and a new emblem. The new sheet metal treatment with lower-skirted fenders and lower chrome trimmed rocker panels, which are integral with the body, is designed to create the appearance of a lower silhouette.



Quality makes SOL-SPEEDI-DRI the leader

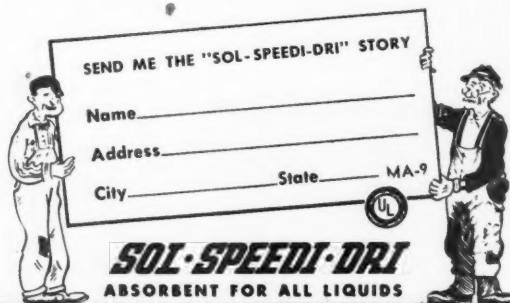
SOL-SPEEDI-DRI is industry's No. 1 absorbent for all liquids. Spread over dangerous, oil-soaked floors, it provides a slip-proof carpet—cuts down on accidents caused by slips and falls. More SOL-SPEEDI-DRI is used in plants and shops all over the country than any other product of similar nature. The reason? There are many, but the big one is *quality*—constant, unvarying quality from one pound of SOL-SPEEDI-DRI to the next.

SOL-SPEEDI-DRI is mined and processed by people who are specialists in the business. Only nature's finest product is used, and this raw material is processed under stringent laboratory control into the finished product. SOL-SPEEDI-DRI comes to you in special weather-proofed bags, insuring factory-fresh material at time of use. That's why you can count on SOL-SPEEDI-DRI to do *more* work, to give you *more* for your money.

WHEN YOU BUY, BE SURE IT'S SOL-SPEEDI-DRI

Safety and
Maintenance Co., Inc.
No. 1 Wall Street
New York 5, N. Y.

Warehouse Stocks Available
in Principal Cities of the
United States and Canada.



"He used to work at a service station."

Willard

"SAFETY-FILL" BATTERIES

**Sell Quicker, Easier
at
Greater Annual Profit!**



WILLARD QUALITY

Willard research, design and engineering skill have combined to create Willard Quality. Manufacturing skill enhances it. Rigid inspection protects it. When you sell a Willard you sell quality—built-in quality. Your customers can depend on it . . . for Quick Starts . . . for Long Life . . . for thoroughly satisfactory battery performance.

WILLARD STORAGE BATTERY COMPANY

Cleveland • Los Angeles • Dallas • Memphis • Portland • Toronto

Willard

DRY BATTERIES OFFER DEPENDABILITY PERFORMANCE LONG LIFE

BUILT-IN FEATURES. BUILT-IN QUALITY.
Extruded one-piece container for greater active zinc area . . . longer life. Extra tough, extra thin separator provides extra space for more mix . . . more capacity. Hermetically sealed to preserve power. Short-proof metal top. Willard Quality throughout. For easy selling, for customer satisfaction, for dependability, performance and long life—sell Willard.



WILLARD STORAGE BATTERY COMPANY

Cleveland

• Los Angeles

• Dallas

• Memphis

• Portland

• Toronto

this position and adjust clevis as shown in Fig. 3, until the valve operating link will go into place. Reconnect the valve operating link and fasten it with the lock.

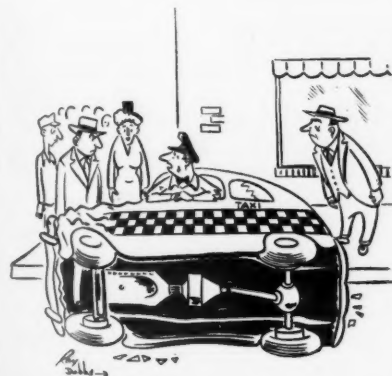
To adjust the engine speed screw warm the engine and let the engine idle with the gear shift lever in second speed. Then adjust the engine speed screw as in Fig. 4 so that the car will just move on a level floor when the operating lever is brought up against the engine speed screw.

To adjust the direct speed switch, disconnect the lead from the direct speed switch and attach one lead of a six-volt light to the direct speed switch terminal and the other to the ungrounded post of the battery. Place the gear shift lever in the high gear position and the light should not burn. Move the shift lever toward the neutral position and the light should go on when the shift linkage lost motion is taken up, but before the shifter fork in the transmission comes out of its detent (see Fig. 5). If the light does not go on in this position, adjust the switch bracket on the stud away from the direct and second idler lever until the light goes on. If the light burns continually, adjust the switch bracket nearer to the idler lever so that the light will go out in the high gear position and will go on just as the linkage lost motion is taken up. Remove the test lamp and reconnect the wires. Road test the car and when slowly decelerating in high gear, the accelerator switch should make contact and the Elec-

tromatic clutch should disengage when the accelerator is slowly released to about 10 M.P.H.

Adjusting the clutch for fast starts at full throttle should be done on the road. Make full throttle starts in second speed. The adjustment should be made to provide as rapid clutch engage-

ment as possible without causing the engine to stumble or hesitate upon full throttle. Turn the valve rod stop screw, as shown in Fig. 6, counterclockwise until the screw extends $1\frac{1}{4}$ inches from diaphragm cover. This will cause a very rapid clutch engagement on fast starts. Then turn the stop screw clockwise $\frac{1}{4}$ turn at a time, until satisfactory clutch engagement at full throttle is obtained.



"Anybody care to play a game of checkers?"

MOTOR AGE, SEPTEMBER, 1948

NIEHOFF Coils...



TO FIT EVERY CAR AND TRUCK YOU SERVICE

- Quick, Tailor-fit Installation
- Superior Quality
- Each Coil Built to Restore New Car Performance.

The Niehoff Coil Line meets every demand for complete coverage and dependable operation for every model or type of automotive vehicle. From core to housing, there's quality "all the way."

Each coil is individually packaged with correct bracket and adapter for easy installation. The Niehoff easy-to-read catalog covers ALL IGNITION SYSTEMS and makes identification and selection simple.

Ask your jobber!

C. E. NIEHOFF & CO.

4920 Lawrence Ave.

Chicago 30, Illinois

Branches: BOSTON 34, Mass., 214 Brighton Ave.
LOS ANGELES 15, Calif., 1330 W. Olympic Blvd.
NEW YORK 9, N. Y., 250 W. 54th Street

NIEHOFF Automotive Products



Reach Up to . . . Bigger Profits!

America's Finest Seat Covers

You can make *more money* on seat covers than you ever made before—with this amazing Rankin Plan. It gives you finest *custom-fitted* covers priced so you can sell them in competition with ordinary, non-fitted covers. Rich woven plastics in gorgeous colors, stripes, plaids, smartest new shades and designs. Beautiful tailoring, perfect fit. Exclusive to independent dealers—no mail order house or cut rate stores can chisel on you. It's the greatest profit idea for the dealer since seat covers were invented! Get *your* share of these remarkable profits.

TEAR OUT AND MAIL
COUPON TODAY FOR
FULL DETAILS.



RANKIN MANUFACTURING COMPANY
 Dept. R, Cedar Falls, Iowa.
 Please send full details on how I can make
 more on seat covers with your Rankin Plan.
 NAME _____
 COMPANY _____
 ADDRESS _____
 CITY _____ STATE _____

RANKIN MANUFACTURING CO., Dept. R, Cedar Falls, Iowa

Pop O'Neill

CONTINUED FROM PAGE 41

"Why don't you get hep?" asked Tommy. "Pop wouldn't make those cracks if he didn't know he'd get a rise out of you."

"I get him told, too, don't I?" said Larry. Then he nodded toward the Chevrolet. "Run that rock crusher over here," he said. "We're gonna check it."

Tommy drove the car into a vacant bay and Larry spread some clean newspapers on the floor beneath it. After running the engine, he examined the papers carefully. He found a spot of oil at the front end and another at the clutch housing.

Tommy frowned, then scratched his head. "That doesn't seem right," he said.

"Maybe you'd like to take over the job," said Larry in a mocking tone.

"Oh don't get sore. I was trying to dope it out. If there are a couple of leaks, the oil pressure ought to drop instead of going up."

"That's what I mean. Pop went off the deep end on this job. The needle flops over, so right away he figures the pressure's too high."

"But if the gage shows—" began Tommy.

"There ain't no law against a

CONTINUED ON PAGE 90



"Aw, give us a kiss — who'll see us?"

MOTOR AGE, SEPTEMBER, 1948

SE 41
asked
those
get
I?"
d to-
rock
We're
a va-
some
r be-
e en-
care-
at the
clutch
atched
seem
e over
locking
s try-
are a
essure
g up."
o went
The
way he
h."
" be-
inst a
AGE 90
BER, 1948



Safeguard
**THE HEART
OF THE
FUEL SYSTEM**

**OVER
30,000,000 IN USE
TODAY**

One of the most reliable parts of an engine is the AC Fuel Pump, heart of the fuel system. That's because it is *first quality* in design, material and manufacture . . . built to meet the engine maker's own requirements.

QUALITY FEATURES

A comparative analysis shows that there are from 27 to 38 additional quality features built into AC Fuel Pumps. These quality features are in:

The Diaphragm . . . Castings . . . Top Cover . . . Link . . . Rocker Arm . . . Drain Petcock . . . Screen . . . Valve Cage Retainer . . . Lock Washers . . . Bushings and Linkage . . . Valve Cages . . . Rocker Arm Pin.

It's the many little operations that make quality. Protect your reputation . . . assure customer satisfaction . . . by replacing worn pumps with new AC's and making repairs with authentic AC Repair Kits and Diaphragm Kits.

**AC
FUEL
PUMPS**



*Featured in AC national advertising,
your customers will look for this sign.*

gage goin' haywire, is there?"

"So you think all you have to do is slip in a new gage?"

"That won't lick all the trouble," admitted Larry. "We'll have to install new oil seals in the timin' case cover and the rear main assembly. Go phone Jack Davis for a new gage and we'll get started."

Tommy hesitated.

"Hurry up," said Larry, "or Pop'll be back tryin' to foul up the job again."

"You're sure we're doing the right thing?" said Tommy.

"Maybe I'm wrong. But so what? Accordin' to Pop, I'm wrong even when I'm right."

"If you make a mistake on Mr. Toomis's car, Pop will think you

really did it on purpose, won't he?"

"The biggest mistake that ever happened to Al Toomis," said Larry, "was bein' born."

Shortly before noon, Larry pulled his head from under the dash of the Chevrolet, and slipped the pliers into his coverall pocket.

"Well," he said, "that's one job we don't hafta worry about no more." He wriggled out into the open, climbed into the front seat, closed the ignition switch and turned over the engine. Tommy could see him watching the oil gage as he tramped on the accelerator. And he could also see Larry's brow cloud over as he kept watching the gage.

"Something wrong?" asked Tommy.

By way of reply, Larry cut the switch, waited a moment, then started the engine again. And, as he did, Pop came out of the office and sauntered over to the Chevrolet. He watched with a faint grin as Larry revved the engine, then cut the switch and climbed out of the car, slamming the door after him.

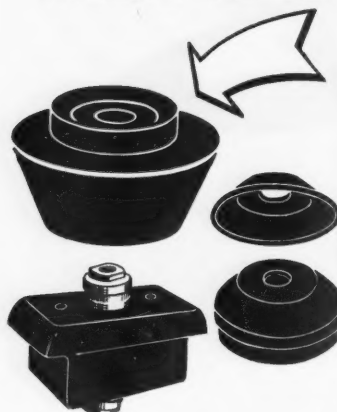
"Provokin', ain't it?" asked Pop, his grin widening.

"Aw, them oil-pressure jobs always burn me up."

"If I ain't bein' too inquisitive,"

CONTINUED ON PAGE 92

Check MOTOR MOUNTS



WITH EVERY CLUTCH REPLACEMENT

DON'T TAKE CHANCES!

Most successful garage mechanics have set up a standard practice of *checking motor mounts with every clutch replacement*. They know that a new clutch job with flabby or broken mountings spells trouble for their customer. They know too, that a grabbing or chattering clutch can often be eliminated with new live rubber mountings.

Don't take the chance of losing business or the good will of your customers. Check motor mounts with every clutch job.

Doan Display Merchandiser

FOR PEDAL PADS AND FLOOR MATS

Doubles your sales, doubles profits. Holds 18 floor mats, 36 pairs pedal pads, 19 accelerator pedals. Compact, portable, rolls on wheels at rear. Ideal for salesrooms, service stations, garages, etc. Overall size: 32" x 25" x 58".



Pat. Pending

Write for descriptive folder TODAY!

Use Genuine **ARMOR-FLEX MOTOR MOUNTS**

Doan MANUFACTURING CORP. • CLEVELAND 12, OHIO



"... And I used to think there couldn't be anything I hated to hear worse than reveille!"

AMAZING *NEW* DEVELOPMENT INCREASES VALVE LIFE!

New Principle of Positive Controlled Valve Rotation Does These 5 Things!

- 1** Prevents distortion in valve head caused by "blow-by" at one point on seat or face!
- 2** Lessens stem deposits, thus reducing sticking at top of guide.
- 3** Rotating action reduces valve face and seat burning!
- 4** Eliminates grooving on tip of valve stem so that correct tappet clearance can be maintained!
- 5** Gives better lubrication to the point of high bearing pressure in the guide!



Revolutionary Valve Rotator . . . Result of 5 Years Extensive Automotive Research and Experimentation

Here's good news for fleet operators—a way to increase valve life in heavy duty engines to an amazing degree! The Toledo Rotocap . . . a new development in automotive engineering that insures positive *controlled* rotation of the valve while in operation. Since the valve is constantly turning, hot spots at any one point are eliminated. Heating is even, lessening valve distortion or warping. Rotation reduces formation of stem deposits which cause sticking. Lubrication is improved. The valve and valve

seat are wiped clean by the regulated rotating action. This insures concentricity between the valve and seat at all times. The Toledo Rotocap turns valve at approximately 15 R.P.M. at 2500 R.P.M. engine speed. Simple to install; sturdily constructed for long life. Designed specifically for use with hard faced and sodium filled valves. Find out how the Toledo Rotocap can give *you* better engine performance, greater fuel economy, lessen your maintenance costs. Contact your nearest Toledo Distributor.

The **TOLEDO**
STEEL PRODUCTS COMPANY
TOLEDO, OHIO, U.S.A.

Since 1906—Makers of Fine Automotive Parts



said Pop, "what have you been up to with this car?"

When Larry did not answer immediately, Tommy chimed in. "Why," he said, "we installed new oil seals in the timing-case cover and the rear bearing assembly, and put in a new oil gage."

Pop looked at Larry. "You done all that to lick high oil pressure?"

"It wasn't *high*," said Larry.

"How could it be with a coupla big leaks?"

Pop threw back his head and laughed. "Larry," he said, "if they ever want to make inner tubes that's really air-tight, they ought to cut 'em out of heads like yours. Nothin' would *ever* get through."

"Stick to the subject," said Larry in a voice that sounded more like a growl.

"Okay," said Pop. "What do you think made them seals leak oil?"

"They wasn't no good," said Larry.

"Not necessarily. They could've had too much oil pressure behind 'em. At least, that's what the oil gage said."

Larry hitched up his coveralls with an air of impatience. "All right," he said. "Maybe I made a mistake. Now what's your guess?"

"It just happens," said Pop, "I don't have to guess this time. It's about as plain as a boardin' house dinner. The oil-pan feed lines are stopped up. That's all. If you hadn't been so anxious to show me I was wrong, you'd've guessed that yourself. Try to blow 'em out with compressed air, and if that don't work put in a new set."

"All I was doin' was tryin' to figure out a job my own way. That ain't no crime around here, is it?"

"No," said Pop. "And it ain't no crime to drive a car on a one-way street, neither—providin' you're drivin' in the right direction."

CONTACT

GENERATOR CUT-OUT

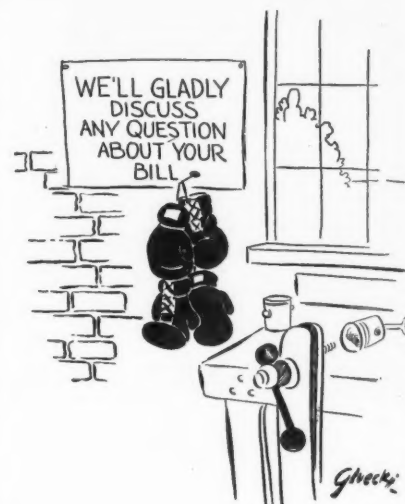
U. S. Pat. No. 2061920

First, look at this P&D patented cut-out. See the one piece phosphor-bronze spring that assures uniform tension under all temperature conditions. Notice the large silver contacts for longer life; no pitting here. And the extruded rivets: they make for a perfect electrical connection and eliminate high resistance because they're unaffected by vibration.

And now the P&D contact. See how the tungsten point is highly polished to eliminate pitting and prevent failure due to oxidation? P&D contacts have been known and used throughout the world for over a quarter century. Compare them with any in the field and prove to yourself why P&D quality has led the industry for years.

These are just a few of the inside features that help the P&D *one complete line* of starting, lighting and ignition replacement parts keep your customers happy . . . make more profits for you!

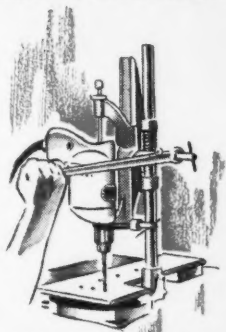
If you haven't got a copy of our Catalog No. 47, drop us a line and we will send you one.



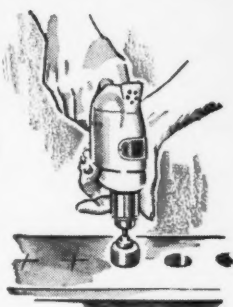
Ford of Canada Raises Prices

Rising costs have forced Ford Motor Co. of Canada to increase prices on cars and trucks by \$110 to \$210. A short time prior to the increase, the company had reduced prices by \$177 to \$363 following reduction of the Canadian excise tax on automobiles to the old level of 10 per cent.

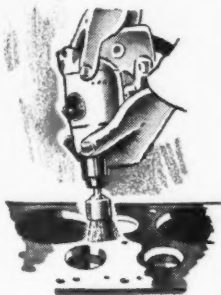
GET MORE OUT OF
YOUR HOLGUNS with
THESE ACCESSORIES!



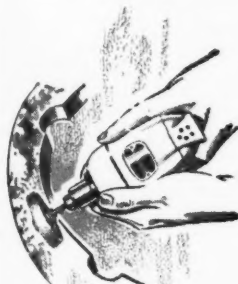
Size 20 Drill Stand
Converts HOLGUN into
Powerful Drill Press



Drive Hole Saws up to
 $1\frac{1}{8}$ " Diam. in Sheet Steel



Drive Carbon Removing
Brushes and
Valve Guide Cleaners



Drive 4" Wire Wheel Brushes

YOU'LL HANDLE DRILLING
JOBS FASTER WITH THIS
POWERFUL
COMPACT HOLGUN!



Van Dorn
 $\frac{1}{4}$ " HOLGUN

The famous Van Dorn $\frac{1}{4}$ " HOLGUN weighs only 3 lbs.—measures only $6\frac{3}{4}$ " overall—but what a difference it makes in automotive drilling! Its light weight and compactness reduce operator fatigue. Its Van Dorn-built motor delivers the abundant power you need for years of trouble-free drilling in metal, wood, plastics and other materials.

For easier handling, smooth housings with the famous "Pistol Grip and Trig-

ger Switch" fit naturally into any hand, right or left. Short working clearance and spindle offset of only $\frac{3}{4}$ " help you drill in tight spots. Ask your nearby Van Dorn Distributor for details on this perfectly balanced "Handful of Power." And give him a call when you need experienced help on any other tooling problem, too. For your free copy of our catalog, write to: The Van Dorn Electric Tool Co., 727 Joppa Rd., Towson 4, Md.

*Trade Mark Reg. U. S. Pat. Off.

FOR POWER SPECIFY

"Van Dorn"
(DIV. OF BLACK & DECKER MFG. CO.)
PORTABLE ELECTRIC TOOLS

The BIG NEWS in Oil Filters

...WALKER LAMINAR OIL FILTER

Featuring the Guaranteed Walker Laminar

Replacement Cartridge for All Filters

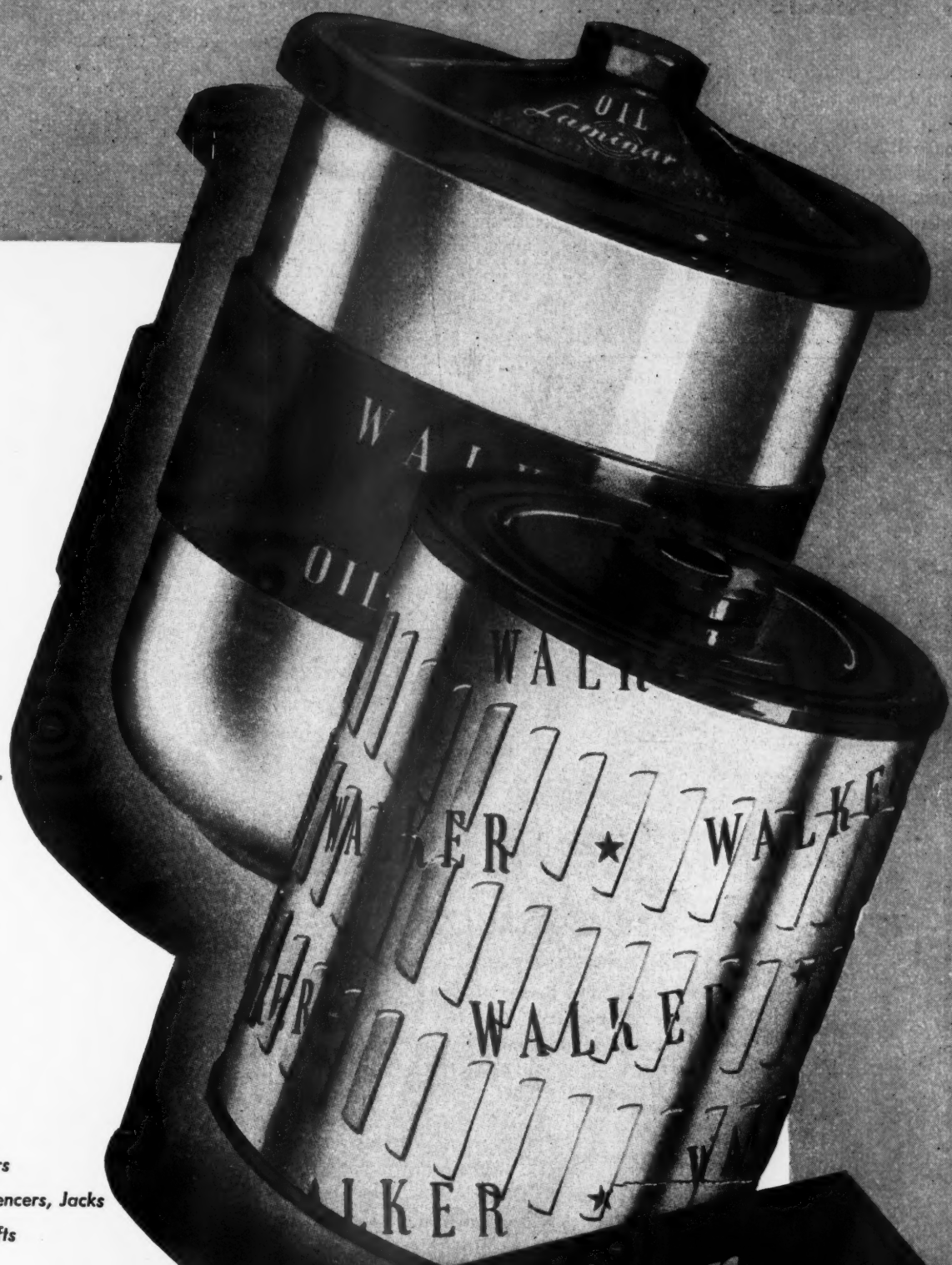
- Here's an entirely *new kind* of oil filter—the Walker *Laminar* Filter with three-dimension filtration—surface filtration, depth filtration and progressive filtering.

Patented *Laminar* construction makes possible, for the first time, an oil filter cartridge of predetermined and uniform characteristics . . . positive, predictable performance. It acts three ways to take out even microscopic particles of harmful dirt and sludge; keeps oil clean for thousands and thousands of miles.

Sell your customers greater engine protection—*guaranteed 3-way engine protection*—with the new Walker Oil Filter and Walker *Laminar* Replacement Cartridge. Ask your Walker jobber about it today! Walker Manufacturing Company of Wisconsin—Racine, Wisconsin.

Guarantee

The Walker Replacement Cartridge with patented *Laminar* construction is guaranteed against channeling, by-passing or migration of the filtering material throughout its active life. Any cartridge found not to comply with this representation will be replaced without charge.



★ Also Makers
of Walker Silencers, Jacks
and Electric Lifts

Walker

WITH PATENTED
Laminar
CONSTRUCTION

Oil Filter

* TRADEMARK

Heat Risers CONTINUED FROM PAGE 68

to closed position by hand. It should move to full open position when released. If it is frozen, loosen it up by squirting penetrating oil on the shaft, tapping it with a hammer, and working it back and forth till it works freely. Once the heat valve is free, observe its position when the engine is cold and, running the engine, watch to see


that it closes when the engine warms up.

In case it is necessary to replace the manifold heat valve or any parts thereof, it is advisable to consult the service manual for that particular make of car to determine the correct amount to turn the thermostat spring before hooking the outer end around the stop stud.

If the tension is too great, the valve will stay open, allowing the hot gasses to pass through the heat chamber at all times. If there is insufficient spring tension the valve will remain closed continuously, thus losing the advantages of a manifold heater.

The few minutes involved in checking the manifold heat control valve is time well spent, for although it may be a simple mechanism, its function is important.

**UP TO
45% MORE PROFIT
ON ARMATURE
WORK**



'WITH AN Atlas LATHE

"We used to have to be satisfied with a profit margin of only 5% or 10%," reports a large mid-western garage, "on armature work sent outside. Now, by handling this work on our Atlas 10" lathe, we make a full markup on cost."

That garage also uses its Atlas to check ring gear carriers for trueness, axle shafts for straightness, and the service manager finds the Atlas "most handy for keeping other servicing equipment in repair. If a bolt in a jack goes bad, or some other piece of equipment needs a new part in a hurry, a mechanic can turn it out on the Atlas. There's no waiting for parts orders to come through while the equipment stands idle."

You, too, can speed up your repair work and make more profit by having an Atlas for the 44 different automotive jobs this versatile tool can handle. Ask your jobber for full details. Send for new catalog.

SEND FOR YOUR
COPY TODAY



"Funny . . . this isn't marked as a point of interest!"

Car Makers Only Dent Huge Order Backlog

The automotive industry will go into 1949 with more than 4.5 million unfilled automobile orders on its books, according to George T. Christopher, president of Packard Motor Car Co. He said that despite excellent production so far this year and with prospects good for continuing at the same rate, the industry will be able to reduce its backlog of unfilled orders only 1.5 million units this year from the 6 million car backlog at the beginning of 1948. He discounted the effect of the Marshall Plan and the defense program as significant factors in the current steel shortage, saying that European shipments are taking only about 2 per cent of total steel production.

ATLAS PRESS CO. 988 N. PITCHER ST.
KALAMAZOO 13D, MICH.





It's the **V SEAM** *with the Dream Ream!*

A New Kind of Piston Pin Bushing!

Ask Your Federal-Mogul Jobber!

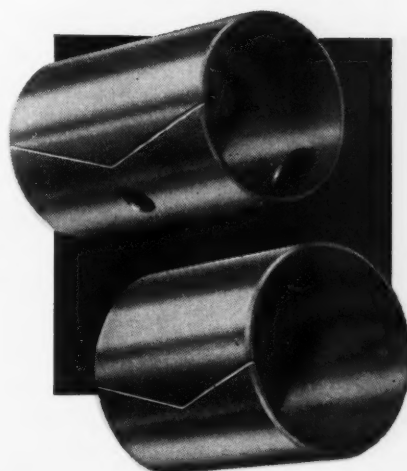
- The V-Seam means they're easily reamed — no reamer tie-up, no special reaming equipment needed; ample wall stock for easy clean-up to pin-fit size.
- Chamfered ends and V-Seam permit easy press-fitting, without distortion.
- Pre-punched oil holes—no tricky after-installation drilling, no burrs.
- Available in complete engine sets.
- YOU PAY NO PREMIUM FOR ALL THESE ADVANTAGES!

FEDERAL-MOGUL SERVICE • COLDWATER, MICHIGAN

(Division of Federal-Mogul Corporation)

**FEDERAL
Mogul**

*Another Federal-Mogul **FIRST!***

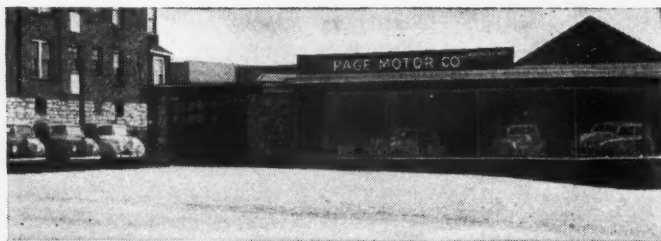


2 new buildings--2 Crosley franchises--all in 2 years

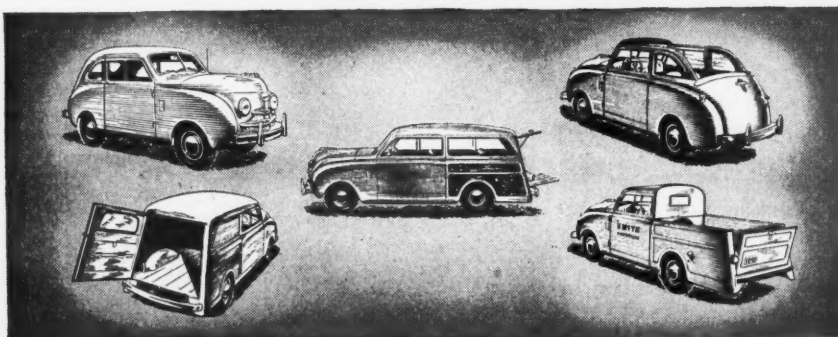
When Ben Stepman finished a four year "hitch" in the army, he set up a used car business at 5555 Easton Avenue, St. Louis. Within a few months he put up a new building and was granted a Crosley franchise. A strong believer in promotion, Stepman quickly saw the response to advertising of the Crosley car. By January of 1947, he had 11 employees and was ready for further expansion. He was granted a second Crosley franchise for another section of St. Louis and built a second building at 6250 Page Ave. Today, both dealerships are highly successful and continue to expand.



BEN STEPMAN



STEPMAN'S 2 DEALERSHIPS, PAGE MOTOR CO., AND BEN STEPMAN, INC.



"I'm making room for aggressive dealers..."

"I want to see more dealers in the Crosley organization who recognize the real money-making potential of the Crosley car. I want aggressive dealers who know how to promote, how to sell. Look around. If there is no Crosley dealer in your community, write me personally."

CROSLEY
a FINE car

CROSLEY MOTORS, INC., 1110-S ALFRED STREET, CINCINNATI 14, OHIO



Powell Crosley Jr.
President, Crosley Motors, Inc.

Free Lube Jobs

CONTINUED FROM PAGE 66

\$28,000 per month.

When the firm moved into its modern new building two years ago, the added room on the service floor suggested the use of some such "traffic stimulator" as this free lube idea.

Other interesting innovations in connection with the building are the two 51-foot doors on the front of the building, which are kept open most of the time. Another useful feature is the fully-equipped cafe situated in the building. This enables the employees to obtain wholesome refreshment without the necessity of traveling to one of the down-town cafes to get it, and saves considerable time.

All of the department heads, Johnson said, have been with the firm for more than ten years, and all of them have risen from the ranks.

Oldsmobile Makes Progress With New Engine Tooling

Tooling is progressing rapidly on the new Oldsmobile V-8 valve-in-head engine. Actual production is expected to start soon. The engine is initially a high compression type and it is reported to have a compression ratio of approximately 8.0 to 1. Whether or not Oldsmobile will use the new V-8 through its entire line is still very much a secret, but one unconfirmed report says that the six will be dropped from the line. Another report which is strictly an unconfirmed rumor is that the 60 series will be abandoned. Buick is said to be considering eliminating the 40 Special series. It should be remembered that these are unofficial guesses and that official confirmation will have to wait until the announcement of the new models late this year. Cadillac also has a new engine which is said similarly to be a valve-in-head V-8 with a stepped up compression ratio. Cadillac will be the first of the General Motors divisions to announce their new models, according to current reports.

its
ago,
floor
such
lube

ns in
are
front
kept
other
ipped
This
btain
at the
f the
and

heads,
h the
, and
n the

ress
ing

apidly
valve-
uction
ne en-
ession
ave a
nately
dsmo-
rough
such a
report
ropped
report
firmed
will be
to be
ne 40
be, re-
official
nfirma-
the an-
els late
a new
arly to
with a
ratio.
of the
to an-
cording

ER, 1948

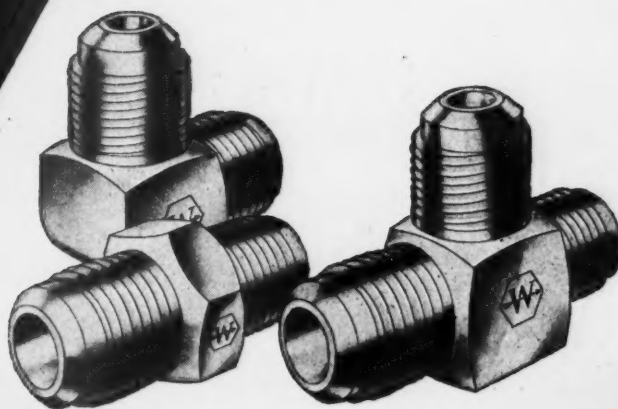
— THE MARK OF QUALITY —



The Right Fitting ...The Right Fit

Weatherhead Fittings are precision machined to S.A.E. Standards. Threads and bodies are clean cut for exact fits.

You can depend on Weatherhead as a reliable source for a complete range of sizes and types of fittings.



Look Ahead with

THE Weatherhead CO.

CLEVELAND 8, OHIO

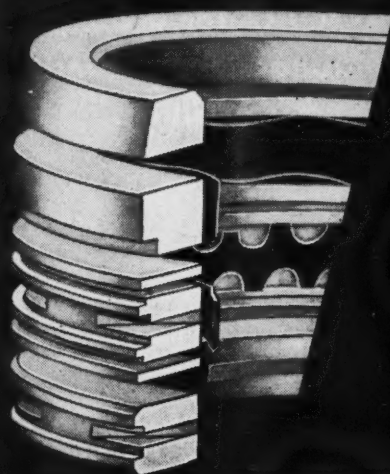
PLANTS AT CLEVELAND, OHIO • ANGOLA, INDIANA • COLUMBIA CITY, INDIANA
HOUMA, LOUISIANA • ST. THOMAS, ONTARIO, CANADA

LOOK AT THE



THE REALLY NEW PISTON RING SET

Repairmen everywhere acclaim LEAK-PROOF—there's nothing like 'em for getting and keeping business. Make LEAK-PROOF your one and only choice and you'll make more friends and more money!



LEAK-PROOF

REG. U.S. PAT. OFF.

A NEW PRODUCT OF McQUAY-NORRIS

LEAK-PROOF RECORD

PROVED BY
ROAD TESTS

BIGGER
PROFITS

Guaranteed to do all

4



- 1 Keep oil down
- 2 Keep power up
- 3 Give smooth, new motor operation
- 4 Give longer life

Yes, Guaranteed!

... guaranteed to give satisfactory performance for 10,000 miles or one year, whichever shall occur first, under the McQuay-Norris LEAK-PROOF Piston Ring Replacement and Labor Guarantee available upon request.

PISTON RINGS

MANUFACTURING CO. ST. LOUIS 10, MO.

Suskana... SARAN

... for auto seat coverings

SMART a wide range of bright and colorful patterns

DURABLE . . . SUSKANA Saran is strong, supple and will not fray or scuff

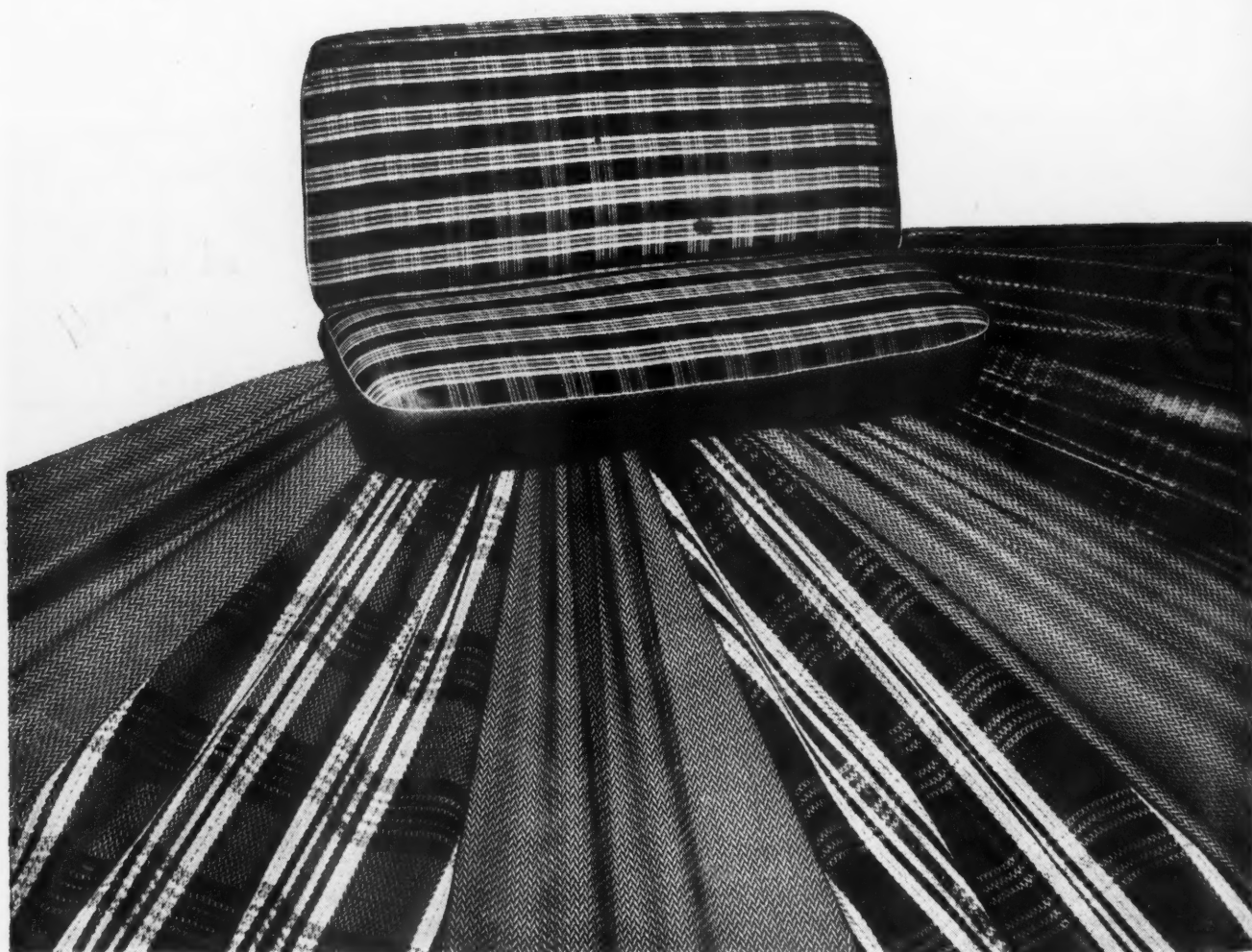
WASHABLE . . . with soap and water or cleaning fluid

SUSKANA Saran . . . always looks bright and spic and span



SUSQUEHANNA MILLS, INC., 404 Fourth Ave., New York 16, N. Y.

*SUSKANA fabrics for Auto Seat Covers,
Upholstery, Men's wear, Women's wear, Neckties



SARAN

SARAN

BY NATIONAL



Beautiful! Care-free! Sales go to seat covers of SARAN!

There's a ready market for seat covers that provide the ultimate in good looks and long wear. That's why motorists naturally choose seat covers of saran. Here is brilliant beauty that is tough—resists dirt, stains, abrasion and hard wear. Rain or shine, seat covers of saran look smarter, fit better, require less care. You build customer confidence and sales when you're ready with seat covers woven of saran.

Suit and accessories from Saks Fifth Avenue, Detroit



REG. U.S. PAT. OFF.

Saran by National

ODENTON, MARYLAND

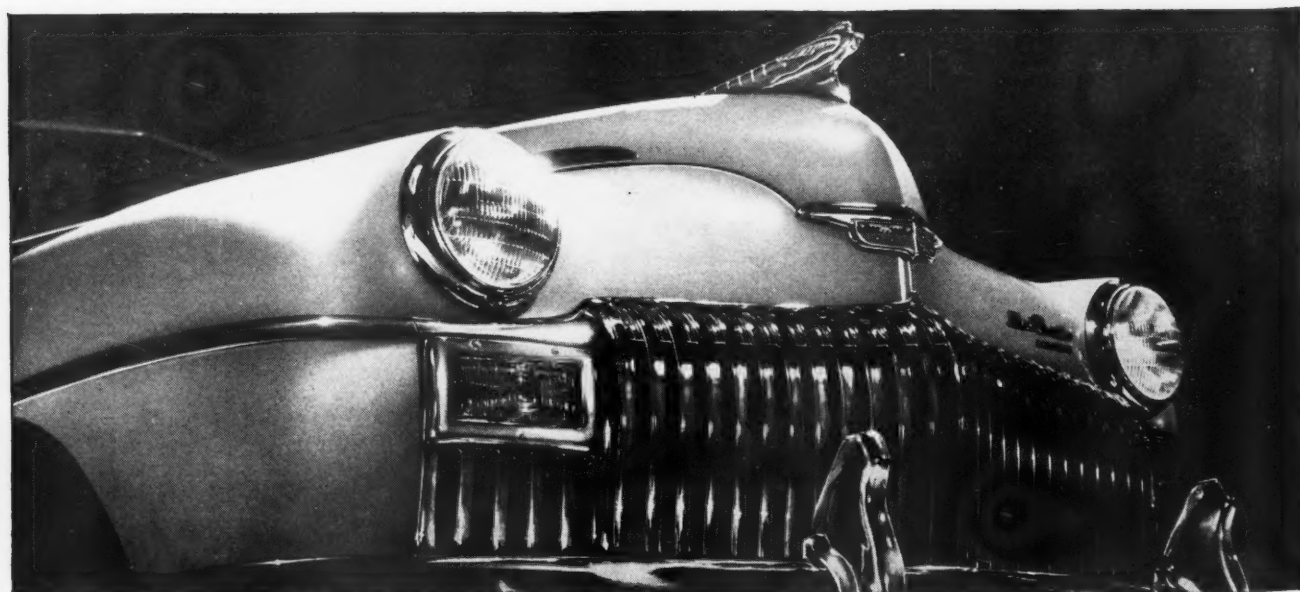
New York: Empire State Building • Los Angeles: Bankers Building



SARAN BY NATIONAL denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's saran, and supplied to mills, weavers and other fabricators.

Talk to a **DE SOTO** owner

who's just back from a long vacation trip. He will tell you that he never rode so comfortably...never felt so relaxed...*and because De Soto lets you drive without shifting...* never before ended up so refreshed and so enthusiastic about any car!



Tune in "Hit the Jackpot" Every Tuesday Night on All Columbia Stations

Personals

Carrol W. Evans has been appointed as general superintendent of the main Service Parts plant of the Studebaker Corporation, South Bend, Indiana. Evans comes to Studebaker from Chicago where he was engaged for a number of years as a consulting engineer.

L. C. Strobeck has been appointed vice president in charge of Mechanical Sales of the Dayton Rubber Company, Dayton,



Ohio. Mr. Strobeck will be in charge of Industrial, Automotive, Railway and Roller Sales.

Edward L. Lee will be installed as Executive Secretary of the Automotive Affiliated Representatives, New York City. Lee will work in close conjunction with Ben M. Asch, who has been handling the association affairs for many years.



L. F. Carlson has been appointed as General Merchandising Manager of the Oldsmobile Division of the General Motors Corporation, Lansing, Michigan.

Ray David Cunningham has been named as manager of Protective Coatings Department, Sales Division, of Lion Oil Company, El Dorado, Arkansas. He has been employed to head the sales of this new specialty product department.

Walter Trefz has accepted the position as General Manager of Southern Warehouse Distributors, Inc., having come to the S.W.D. from the National headquarters offices of the National Standard Parts Association.

W. A. Carlson was recently appointed Sales Manager of the Body and Hoist Division of the Heil Co., Milwaukee, Wis. He has been with Heil nine years.

BUILT TO LAST LONGER

AND GIVE MORE EFFICIENT COMPRESSED AIR SERVICE

CHECK UP on your old air compressor. If badly worn, or overloaded, it will pay you to replace it now with a new, efficient Wayne Compressor. The time and power saved will pay for the new unit in a short time. Write today for catalog showing Wayne's complete line.

THE WAYNE PUMP CO. • FORT WAYNE 4, IND.



Backed by

for your protection

NATIONWIDE SERVICE

GASOLINE PUMPS • CAR WASHERS • AIR SCALES • HOSE REELS • AUTO LIFTS

mental profit can be determined with greater exactitude if the shop owner charges directly to a certain department that part of overhead that can be identified as belonging exclusively to it and allocating the remainder. Nevertheless, for all practical purposes, the shop owner will find the indirect formula satisfactory. It is in wide use and will

give reasonable approximations so that he can spot the departments that are wide of the profit mark. When he gets this red light he can break down the figures more minutely and find out the reason why. Where he finds that an adjustment in the overhead charged to a department is needed to make allocation fair, he can make the ad-

justment. For example, if one department uses three times the floor space of another department or if the departments vary widely in the utilization of floor space, then charge the rental or ownership expense, light, heat and power directly on the basis of floor space and allocate the remaining overhead expense indirectly.

The best way to explain departmentization is to illustrate the formula in operation by using an example. A shop owner's profit and loss statement showed these composite figures as taken from his books.

Sales	\$50,000
Cost of Sales-labor-materials	30,000
Margin of Profit	\$20,000
Overhead expense	15,000
Net profit on sales	\$5,000

Let us assume that when these figures were broken down departmentally, this was the result:

	Per Cent
Department #1	\$8,750—17.5
Department #2	12,500—25.0
Department #3	15,000—30.0
Department #4	13,750—27.5
Totals	\$50,000—100.0

As shown on the composite profit and loss statement, his overhead for the period was \$15,000, so we compute this expense for each department, dividing the overhead in proportion of each group of sales to the aggregate, thus:

	Per Cent
Department #1	\$2,625—17.5
Department #2	3,750—25.0
Department #3	4,500—30.0
Department #4	4,125—27.5
Totals	\$15,000—100.0

The departmental cost of sales, labor and materials, is easily determined from the job costing forms. The cost of sales on accessories is procurable from suppliers' invoices

CONTINUED ON PAGE 98

Get Set Now...

for testing anti-freeze
... including the new Prestone

IMPERIAL "K" FREEZETESTERS



No. 546-TA High Speed Universal Freezetesters. Tests the New "Prestone" and over 90 other brands and types of anti-freeze. Has simplified color band system of reading. Dealer's Cost\$4.40



No. 556-TA Universal Freezetesters with SLIDE CALCULATOR. Tests the New "Prestone" and all other commonly used anti-freezes. Sets a new high in ease and accuracy of reading. Dealer's Cost\$4.40

Also Single Solution Freezetesters for the New "Prestone", "Zerex", "Zerone" and Alcohol. Dealer's Cost, each.....\$1.99

See Your Jobber
Ask for Bulletin 328-B

THE IMPERIAL BRASS MFG. CO.
1200 W. HARRISON STREET • CHICAGO 7, ILLINOIS

Brass Fittings • Flexible Fuel Lines • Tube Working Tools
Battery Hydrometers • Barrel Faucets • Welding Equipment



"Okay, you! Pull over to the . . . !!"

e de-
floor
or if
n the
then
p ex-
rect-
and
head

part-
e for-
n ex-
t and
com-
n his

\$50,000
30,000
\$20,000
15,000
\$5,000

these
repart-

Per Cent
—17.5
—25.0
—30.0
—27.5
—100.0

profit
erhead
so we
ch de-
ead in
ales to

Per Cent
—17.5
—25.0
—30.0
—27.5
—100.0

sales,
deter-
forms.
ries is
nvoices
PAGE 98

ER. 1948

GET RID OF THEM... BUT QUICK!



INSTALL THE NEW
amoZONer
amazing ozone generating unit for
Garages Repair Shops Motor Testing Rooms



Keeps air fresher, healthier, more invigorating where internal combustion engines tend to foul the atmosphere. Helps to protect the health, happiness and efficiency of the men and makes your shop more inviting to customers.

A single unit installed seven feet off the ground clears the atmosphere, up to 6,000 square feet of floor space.

Easy to service
Only one part to clean
(average 3 times a year)
Absolutely safe
No tools required
ECONOMICAL TO OPERATE

Obtained through leading Automotive Wholesalers

AMERICAN ASSOCIATES, INC.
Automotive Products Division
1728-30 Fairmount Avenue Philadelphia 30, Pa.

or the books. Suppose the cost of sales departmentized as follows:

Department #1	\$5,800
Department #2	8,900
Department #3	7,100
Department #4	8,200
Totals	\$30,000

Combining the foregoing departmental figures, which will agree in totals with those on the composite statement, we get:

	Cost of Sales
Department #1	\$8,750
Department #2	12,500
Department #3	15,000
Department #4	13,750
Totals	\$50,000


The composite statement shows an over-all net profit of \$5,000 for all departments, but when the figures are broken down, and each department is charged with its pro-

Gross Sales	Profit	Overhead	Net Profit
\$5,800	\$2,950	\$2,625	\$325
8,900	3,600	3,750	150—Loss
7,100	7,900	4,500	3,400
8,200	5,550	4,125	1,425
\$30,000	\$20,000	\$15,000	\$5,000

portionate share of overhead expense based on sales, Department #2 shows a loss of \$150, Department #1, a net profit of less than 4 per cent against an over-all net of 10 per cent, Department #4 shows better than 10 per cent profit and Department #3 hit the jackpot for better than 22 per cent net! Variances such as this are not unusual when over-all figures are broken down to departmental profits.

Body Engineers Schedule Convention in November

The annual convention of the American Society of Body Engineers will be held Nov. 3-5 at the Rackham Memorial Building in Detroit. Technical sessions will include discussions on styling, production, engineering, small cars, buses and coaches, commercial bodies, body fabrication, stress analysis and testing, passenger car and body engineering. Of special interest will be a paper by Dr. Claire L. Straith, plastic surgeon, on "Relationship of Present Interior Body Design to Facial Injuries." During the convention an industrial exhibit of body materials, parts, and body hardware will be on display.



FRONT-END SERVICE IS ALWAYS PROFITABLE!

Front-end maintenance continues to be the most neglected service opportunity. That's why so many repairmen find special attention to wheel alignment and the use of Rowland Coil Suspension Parts gets extra work, generous profits and good will. Just try it and watch results! Catalog available—write—Wm. & Harvey Rowland, Inc., Frankford, Philadelphia 24, Penna.

Customer cost of Rowland Rubber Coil Spring Silencers is little; the freedom from noise they buy is great. Win two ways—a pleased customer and a plus profit on every front-end job.

Warehouse stocks: Atlanta, Birmingham, Chicago, Dallas, Los Angeles, Jacksonville, New York, Philadelphia, Pittsburgh, San Francisco . . .



SATURDAY
EVENING
POST



COLLIER'S

WILL THESE BE WORKING FOR YOU?

This month, this full-page ad will appear in the Saturday Evening Post and Collier's, the smaller ad in Hoard's Dairyman. Total circulation, more than 7 million. Are you displaying the AC Service Dealer Sign that ties you in with these ads? Do you handle AC "Five-Star Quality" Oil Filters and Replacement Elements . . . *the most widely advertised line in the industry?* If you're not an AC Service Dealer, think what you're missing! Then get in touch with your AC wholesaler.

HOARD'S
DAIRYMAN

BE A NATIONAL ADVERTISER



DISPLAY THIS SIGN

Oil Filters



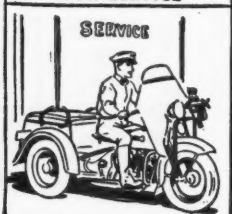
AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

Make first-time customers *life-time* customers
with

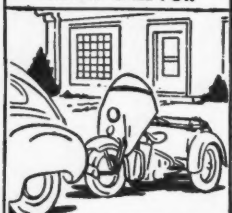
SERVI-CARS



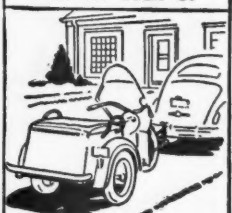
CUSTOMER PHONES
FOR SERVICE



QUICK CALL-FOR



QUICK PICK-UP



PROMPT RETURN

BRING back those first-time customers no matter where they live. Their business builds *your* business bigger. Every new account . . . counts! Servi-Car pickup and delivery service pleases all your customers, old and new . . . gets them in the habit of calling you for *all* their work. That not only increases your service and repair volume, but brings many sales opportunities to your new car and accessory department. It gives you a *real edge* on competition.

Servi-Cars are money-makers in many other ways. They help regulate work flow and keep mechanics profitably busy. Save time on parts and accessory pickups. Draw business from all over town. Advertise you wherever they go.

Phone your Harley-Davidson dealer today and learn how effectively the Servi-Car will fit into your own needs and plans. Write for folder that points the way to new profits in selling your maintenance and repair service.

HARLEY-DAVIDSON MOTOR CO.
DEPARTMENT MA • MILWAUKEE 1, WISCONSIN

Briggs

CONTINUED FROM PAGE 65

Another time saver used in the laboratory shop is much more extensive use of torch soldering than is customary in many shops for filling dings, rather than bumping them out from the inside, especially where the interior of the panel is highly inaccessible. Center posts, doors, sills, etc., are lined up on the inside first, and then dings on the outer surface that can be sprung or pulled out are straightened as much as possible. Following grinding down, thorough cleaning, and tinning, the ding is filled with solder and then finished in much less time than would have been required for hand bumping from the inside. Filling also is used extensively for repairing rust spots in rocker panels and other places. If the hole is not large, powdered asbestos is mixed with water and packed against the underside as a backer. It holds until the solder is set and eventually dried out and drops off. Briggs has found that a half inch of solid metal around the hole is adequate to hold a permanent patch. For holes too large to take the asbestos packing, a thin backing plate is tackwelded in place before filling. The wet asbestos also

CONTINUED ON PAGE 112



"Now . . . that's what I call . . . good form!!"

HERE'S HOW BOB REESE MOTORS

Builds Lubricating Business

with

ARO



Here's the smart new lubrication center at Bob Reese Motors, Inc., Ford dealer in Toledo, Ohio—an outstanding layout to "bring cars home for service" with ARO Lubricators.

Two batteries of Aro Overhead Reels provide speedy, efficient service for four lifts from remotely located Aro pumping units. Each group of eight reels includes one for air, two gear lube, two chassis lube, two motor oil, one water. Aro DeLuxe Portable Drains serve each lift.

Aro's exclusive "Hi-Lo" Control gives this

modern lube department instant change from high to low pressure for chassis lubrication. This *saves time* by furnishing high pressure to "crack the tough ones" . . . *saves wear, saves air and saves lubricant* by permitting use of low pressure for most fittings.

You, too, can build lube business with ARO! Whatever your lube equipment problem—ARO has the profit-answer for you! A complete line . . . engineered for long-life dependability. See your Aro Jobber. The Aro Equipment Corporation, Bryan, Ohio.

ARO

LUBRICATING EQUIPMENT

is used as an insulator during welding operations to protect adjacent metal areas from damage from excessive heat. Another elementary practice suggested is always to work toward the point of damage, not away from it, when removing dings.

On doors with extensive damage to the main panel, Briggs has found

that it is cheaper to use a factory made replacement panel than to attempt repair of the metal. Not only is considerable time saved, but after the damaged outer panel has been cut away the interior of the door is accessible for straightening the frame, hinges, and other members that may be damaged. Another advantage is that the new

panel is either custom formed or pressed on original factory dies and has the exact contours required, a difficult and time consuming job to accomplish in the average shop. Briggs discovered that installing the new panel is much easier if the door first is hung in place with a couple of screws in each hinge. It can then be lined up and adjusted easily and the replacement panel tackwelded in just the right position without the use of special bucks, which many shops do not have. The door then can be taken off to complete the welding and metal finishing.

Another hint on door repair is that when hinges are more than slightly sprung, it is cheaper to install new ones than to spend considerable time trying to obtain the original radius, since hinges are designed with just the proper angle to give correct door action.

With many young and inexperienced men coming into the body repair field, part of the Briggs service is to make available to them the little tricks of the trade, which the older hands have accumulated through years of experience. Proper procedure for installing headlining is a good example. The novice sometimes gets into trouble by removing all the bows first and then has difficulty because of varia-

CONTINUED ON PAGE 114



1. Customer-getting Advertising!

By reaching 5 out of 6† car owners in your community, Pennzoil directs more people to your place of business than ever before!

2. Customer-holding Performance!

By meeting highest standards of performance, Pennzoil satisfies and holds the quality-buying customer who is the best bet for all your services and merchandise.

Take advantage of this double profit opportunity now. Get in touch with your Pennzoil distributor . . . or write to us for his name.



†OVER 45 MILLION MAGAZINE
SELLING MESSAGES
MONTH AFTER MONTH!

THE PENNZOIL COMPANY • Executive Offices • OIL CITY, PA.

*Trade-mark Registered

Member Penn Grade Crude Oil Ass'n., Permit No. 2

PENNZOIL MOTOR OIL & LUBRICANTS



"Wasn't it nice of that automobile company to lend us this until we get our new car, dear?"

*It's
Copper-
coated*

It will pay you to
LOOK INTO THE NEW
Thompson
"500 BRINELL"
Cylinder Sleeve

- Easily installed—without distortion
- Better heat conductivity
- 2½ times longer life

THIS IS THE NEWEST Thompson cylinder sleeve, with over twice the Brinell hardness of ordinary sleeves, hardened all-the-way-through.

And it's *copper-coated* on the outside for easier, safer installation and better cooling.

The Brinell hardness of this sleeve is 450-550 as compared with the 200-220 of ordinary sleeves. Its service life averages 2½ times longer than conventional sleeves or block bores. Life of the pistons, rings and bearings is prolonged

and oil consumption reduced.

The soft outside copper-coating prevents distortion of the sleeve during installation, improves the bond, and increases heat-transfer efficiency 25% to 50%.

The Thompson "500 Brinell" sleeve, in both wet and dry types, has already been adopted by nine heavy-duty engine builders. Fleet operators and general repair shops will find it profitable to look into this new super-sleeve for replacement service.

Thompson  **Products**

Cleveland • Detroit • Los Angeles • St. Catharines, Ontario



These are the Thompson Heavy-Duty parts which convert ordinary engines into super-power plants: Cylinder Sleeves, Steel-Belted Pistons, Chrome Plated Piston Pins, Engine Bearings, Exchange Con Rods, Chrome Nickel Alloy Valve Guides, Aerotype Valves, Valve Rotocaps, Heavy-Duty Valve Springs, Duracrome Valve Seats, Packless Water Pumps.

tions in radius if he does not get them back in proper order. To avoid mixups, Briggs recommends starting at the back, removing, threading, and replacing one bow at a time.

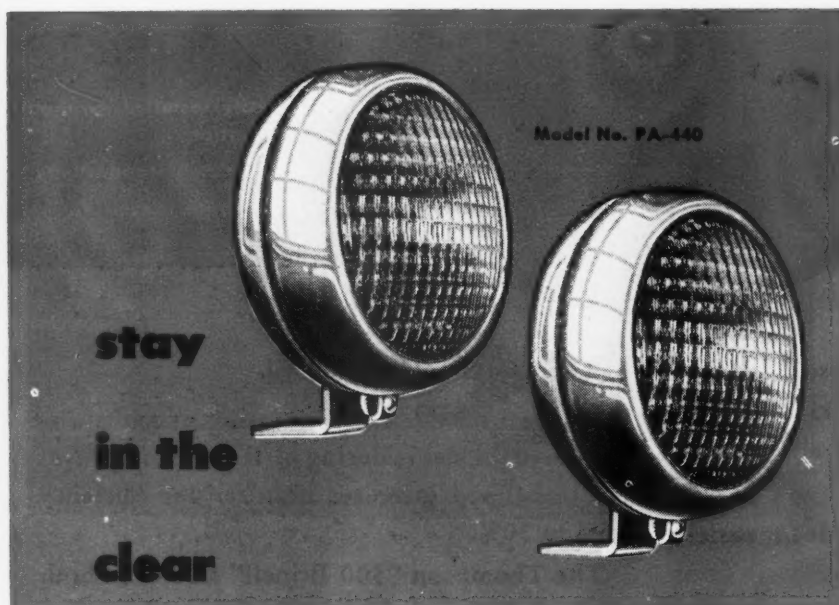
A new and important feature of the Briggs service program that has been budding for some time is about ready to bloom. It consists

of a series of clinics on all phases of metal and paint work to be held under sponsorship of Briggs distributors, who will invite repairmen from independent and dealer shops in their territory. A factory team already is in the field training key personnel, and the actual clinics will be held soon. By the most modern methods of visual training,

including manuals, films, drawings, and actual demonstration, a complete training course in body repair and painting will be given. At the conclusion, the body men will receive a manual showing operations covered in the course, including re-hanging doors, installing locks, location of body panel joints, metal dinging and painting, body and frame alignment methods, aligning and fitting doors and hoods, upholstering and trimming, glass replacement, body hardware, and many others.

Briggs has a unique position among paint manufacturers in that it also is a builder of complete automobile bodies, and consequently can draw on the technical know-how of a large group of specialists in its manufacturing divisions. In cases of extreme emergency, the company will take into the factory a job that cannot be handled in the field, although this service necessarily must be very limited. Such a job is shown in the accompanying illustrations. All four upper door sections were so badly damaged that they could not be repaired by ordinary methods. Briggs straightened the inner frames and cut off the exterior part of the belt molding.

CONTINUED ON PAGE 116



with **ARROW FOG LIGHTS**

ARROW



Model No. A-490

Back-Up Light. 4" sealed-beam bulb floodlights the road to right and left of car. Chrome finish, with splash-pan or other brackets for practically all model cars.

Here's a honey of a pair of fog lights. They're good-looking. Their modern sealed-beam units give the utmost in driving comfort. And they're designed to become real money-makers for you.

Arrow Fog Lights are proof against dirt and moisture. The sealed beams have a special internal shield that fully deflects the light to the road, where a driver needs it. No glare. No separate bulb to blow out. No dimming, ever.

The lightweight shallow bowl has a high-quality chrome finish that enhances the appearance of 1947 and later model cars. 4" clear or amber lens. Adjustable steel bracket for mounting on splash pan; bumper and other brackets available.

Order now for the bad weather ahead.

SAFETY AFTER DARK

ARROW SAFETY DEVICE COMPANY

MOUNT HOLLY, NEW JERSEY



"It never occurred to me when he asked us over to see the fights on television, that he'd make us pay for our drinks!!"

Exide

MERCHANDISER
with
"KEEPACHARGE"

*It's Boosting
Sales for
Exide Dealers*



Here's a Battery Merchandiser that automatically sells the better grades, in 3 easy steps . . .

(1) Tells the customer which grade of battery best meets his requirements, (2) Shows proper battery for his car, and (3) says, "Have your new Exide installed NOW!" And that means NOW for the Merchandiser is equipped with

"Keepacharge", the Exide designed trickle charger, which keeps batteries "factory fresh"... fully charged ready for immediate installation.

Available in two sizes:

De Luxe Model (illustrated) holds 9 batteries.

Standard Model holds 6 batteries.

Start the Exide Merchandiser working for you . . . selling MORE batteries . . . selling BETTER GRADE Exide Batteries.

ORDER NOW FROM YOUR EXIDE WHOLESALER

More than ever before it's good to be an Exide Dealer

1888 . . . Dependable Batteries for 60 Years . . . 1948

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto

MOTOR AGE, SEPTEMBER, 1948

New sections taken from factory stock were welded into place and the whole job metal finished. Only the particular conditions surround this particular job could justify the expense of such an unusual operation.

Although Briggs is a supplier of bodies for Chrysler Corporation, Packard, and Willys, its "supply

and assistance" activities will not be confined to bodies for those cars alone. In the paint line, it supplies refinishing materials for Chevrolet cars, Ford cars and trucks, Mercury cars, and Dodge trucks, as well as for Dodge, Chrysler, Plymouth, DeSoto, and Packard, and plans to extend its line to cover paint for all other

makes as soon as materials are available. In order to assist body shop operators in holding down investment in materials, it has worked out a system of color matching that requires an inventory of only 28 base colors which are used in combination to make any one of more than 4000 colors. Briggs supplies formula sheets showing the proper proportions of each basic color required for any specified color. The paints are blended by using specified parts by weight, which is the production method of insuring accurate color match, instead of the volumetric system. With the 28 basic colors in stock, the paint shop can match any color used by any automobile manufacturer by consulting the formula sheet, which is revised and brought up to date when new model cars are introduced. Briggs also offers a precision built scale for proportioning the different colors.

Another method offered by the company to hold inventories at a minimum is a baking accelerator for converting air-drying enamel to baking enamel. By merely adding four ounces of the accelerator to a gallon of the air drying enamel, it is converted to a suitable type for use in infra-red ovens.

Under the distribution system set up by Briggs, the wholesaler is the link between the company and the body shop in most cases, although it is possible for the customer to deal directly with the company. Re-

CONTINUED ON PAGE 118

Presenting
THE NEW
LIGHT-HEAVYWEIGHT CHAMPION
RE-MO

Light on Investment

Heavy on Profit

FOR REMOVING
SCALE, RUST
AND GREASE FROM
ENTIRE
COOLING SYSTEMS

SERCO PRODUCTS

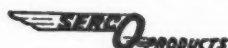
CAUTION: Use only as directed

The New ACID-TYPE Cooling System Cleaner

RE-MO quickly cleans out all scale, rust, alkali and grease from the worst-clogged cooling systems.

Like all other products in the quality Serco line, RE-MO carries an unconditional guarantee of satisfaction. Comes in an easy-to-sell, easy-to-use, double-section container complete with cleaner and neutralizer.

RE-MO packs an awful wallop! Put him on your sales force today!



SERVICE SUPPLY COMPANY
1115 SEVENTH STREET DENVER 4, COLORADO



It's Here

SPEAKER

ALL-WEATHER RADIATOR FRONT



**No. 1
Contender
for
FIRST
PLACE**

in your ACCESSORY SALES PARADE!

The SPEAKER ALL-WEATHER RADIATOR FRONT promises to be the fastest selling automotive accessory you've ever laid eyes on. Everyone who sees it wants it because it's the most necessary piece of automotive equipment on the market today. Truthfully, there's nothing else like it.

Here's what it does . . . shields radiator and motor from frigid blasts in cold weather; screens out and brushes off bugs which otherwise clog radiator cores in warm weather. Yes, it's a dual-purpose, completely concealed, under-the-hood accessory that gives year 'round car protection, greater driving comfort, increased gasoline mileage, decreased oil consumption and lower repair costs.

You don't have to tell customers how the SPEAKER ALL-WEATHER RADIATOR FRONT operates. You can actually demonstrate it . . . for Speaker has available a sure-fire, double-action display unit that's an eye catcher and sales clincher, for use either in your sales room or service department.

It's made of first quality, non-rusting, corrosion-proof aluminum, to last the life of a car. Durable Pyroxylin winter shield, tightly wound on spring roller, is quickly raised over the desired radiator surface by pulling dash or glove compartment control knob (mounting optional). Stiff bristle brush attached to top of roller whisks bugs and dirt from screen surface. Snug fitting wiper attached to bottom of roller housing cleans mud and dirt from winter shield. Made in sizes to fit 95% of all late model cars and trucks. Simple and speedy to install. No special tools required.

To insure a mass demand for the SPEAKER ALL-WEATHER RADIATOR FRONT . . . to guarantee you fast sales, rapid turn over the year 'round, attractive advertisements with plenty of sell will appear in such consumer publications as the Saturday Evening Post, starting in the September 25th issue and continuing through the fall months. And the unit offers more than fast sales . . . it's priced to give you a better-than-average margin of profit. Combine these features and you've got a natural profit maker for immediate sales. Remember: it's a dual-purpose WINTER FRONT and SUMMER BUG SCREEN.

You can make the SPEAKER ALL-WEATHER RADIATOR FRONT pay bigger dividends for you by placing your order at once. Decide to speak for A SPEAKER today. Order from your Jobber — or direct if he can't supply you.



**DOUBLE-ACTION
SURE-FIRE
DISPLAY UNIT**
IN YOUR SALES ROOM AND
SERVICE DEPARTMENTS

**Completely
Controlled
FROM THE
DRIVER'S SEAT**



U. S. Patent No. 2,237,986

J. W. SPEAKER CORPORATION
3063 NORTH WEIL STREET
MILWAUKEE 12, WISCONSIN

In Canada: Canadian Speaker Corp., 647 Vltre St., W., Montreal 3, Quebec
Makers of the world-famous Complete Line of Speaker Match Patch Tube and Tire Repairs

WITH EVERY FUEL PUMP SALE OR SERVICE

THIS



SELLS EASILY

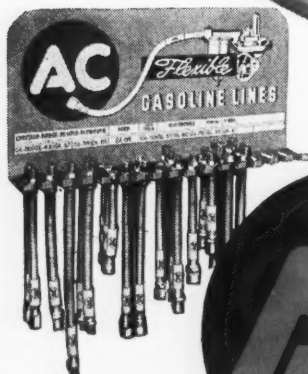
They belong together. They work together. They *sell* together—easily. That's why AC now gives you AC Flexible Gasoline Lines. You can *sell one every time* you sell or service an AC Fuel Pump—and there's an AC Fuel Pump on nearly every car on the road.

OTHER FLEXIBLE LINES, TOO

To let you cash in on *all* the fast-moving flexible lines opportunity, AC also gives you Oil, Grease, Vacuum, and Oil Filter Lines. They, too, sell on *inspection*. Just look for signs of burning, chafing, cracking, checking, and kinking.

Now in Stock at Your AC Wholesaler

AC SPARK PLUG DIVISION
GENERAL MOTORS CORPORATION



HERE'S YOUR BEST BUY

The Wall Merchandiser (FM-1), shown at the left, gives you all the lines you need for 85% of the market. All lines are "tailor-made," ready to install.

AC Flexible LINES

Briggs Body

CONTINUED FROM PAGE 116

quests for assistance normally are handled by the distributor in the field, since he is equipped to handle some cases himself, and is in contact with company specialists when they are needed. Wholesalers may be either designated automobile dealers who distribute parts and accessories, or they may be independent jobbers who take on the Briggs line. In either case, they carry a complete line of materials and equipment for body repair and refinishing, ranging from sandpaper to large infra-red baking ovens. The essence of the company's program is to offer complete service to the body shop in tools and materials and the technical assistance for their application.

Salt Chromate Solution Cuts Corrosion on Cars

As a result of tests conducted by Goodyear Tire & Rubber Co., use of a new salt-sodium dichromate solution for snow and ice removal on city streets is expected to see increased use by municipalities next winter. A report on the tests conducted in Akron, O., last winter indicated that 68 per cent of all cars used in the experiments showed no corrosion at all on under-body metal parts. Ninety-six per cent of the new cars which had been driven only one winter on streets treated with the salt-sodium dichromate solution and never in the 100 per cent salt solution normally used showed no corrosion and 4 per cent showed only traces of corrosive effects. Tests also show, according to company engineers, that even on older cars chromates will arrest "trapped" salt corrosion in body and fender joints that continues through the summer every time the car becomes wet. The tests also have shown that the salt chromate solution not only is harmless to natural and synthetic rubber, but that it actually tends to toughen it slightly.

are
the
ndle
con-
hen
may
obile
and
nde-
the
they
rials
and
and-
king
com-
plete
tools
as-

ected
Co.,
thro-
ice
ected
pali-
the
last
cent
ents
on
y-six
had
r on
dium
r in
nor-
a and
s of
how,
eers,
nates
osion
con-
every
The
salt
arm-
rub-
ds to

1948



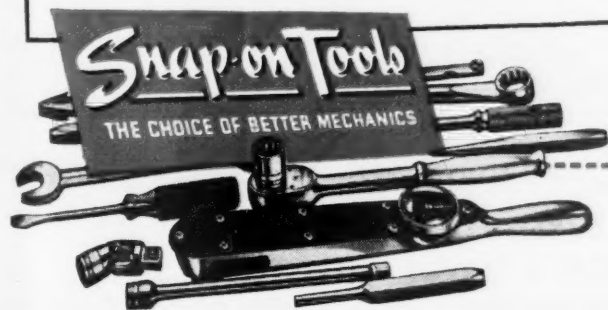
"Snap-on Tools

**eliminate wasteful
tool-chasing time,"**

*... says Paul A. Schaup,
Service manager of Les Vogel
Chevrolet, San Francisco, Calif.*



**For 28 years, Snap-on's
Direct-to-user Tool Service
has proved to be
"The Time-Saving Way
to Buy Time-Saving Tools"**



Service managers from coast to coast are just about unanimous in their approval of Snap-on tools and of Snap-on's nationwide, direct-to-user tool service. Mr. Schaup says this tool service "eliminates wasteful tool-chasing time". The Snap-on man calls regularly . . . helps keep tool kits up to par. He brings the tools to the mechanics . . . eliminating the need of hours spent in "shopping around".

In addition to this modern method of distribution, add all the quality features that have established Snap-on tools as "the choice of better mechanics, everywhere", and you will see why "the Snap-on way" pays big dividends in time saved for the mechanics and money saved for management. Write for the new 1948 catalog.

SNAP-ON TOOLS CORPORATION

8036-I 28TH AVENUE • KENOSHA, WISCONSIN

International Division: Kenosha, Wis., U.S.A.

plate springs working against the distributor diaphragm. Any reduction in vacuum on the distributor diaphragm will allow these two springs to retard the spark in proportion to the reduction in vacuum. Spring tension should not be changed unless proper testing equipment is used.

Removing the distributor is ac-

complished by unsnapping the two clamps that hold the cap down and remove the cap. Disconnect the primary wire from the distributor and vacuum line at vacuum cylinder. Loosen the distributor clamp lock screw and lift out the distributor assembly.

To time the distributor to the engine, crank the engine until the

grooved or spherical mark on the vibration damper is in line with the pointer on the timing case cover. With mark in this position either No. 1 or 6 piston is in firing position. To set ignition timing loosen the clamp screw and move the distributor either back or forth until the spark jumps on No. 1 or No. 6 cylinder.

Schluter Announces New Thermoid Plant in Utah

The large, modern plant of the Thermoid Company at Nephi, Utah, is now approaching 75 per cent operation, according to an announcement by President Fred E. Schluter.

Industrial belts (conveyor, transmission and V), hose of all kinds, including Rotary and Wire Braid Hydraulic, molded products for the oil fields, and fan belts and radiator hose for the automotive trade will be manufactured in the new unit.

The new Thermoid plant covers a land area of 23½ acres. The buildings alone cover 193,044 square feet.

The factory represents the fourth manufacturing unit of Thermoid Company. In addition to the main plant at Trenton, Thermoid operates an asbestos textile factory at Charlotte, North Carolina, and their Canadian subsidiary at Welland, Ontario, where hard rubber battery cases used in Canada are produced.

Teach your customers this helpful all-year habit:



DRY-EX is as important as gasoline and oil

DRY-EX absorbs condensed moisture in fuel systems and thus:

1. DISSOLVES FUEL-LINE SLUDGE AND GUM
2. BANISHES MOTOR SPITS AND SPUTTERS CAUSED BY MOISTURE
3. HELPS INSURE QUICK STARTS
4. PREVENTS STALLS DUE TO FROZEN FUEL LINES

Every car should have DRY-EX as regularly as gas and oil. (Once a month, or every 1,000 miles.) And this goes for all seasons, because normal temperature changes in any season cause moisture condensation.

DRY-EX laps up such moisture and blends it with the gasoline so that it "burns" right along with the gasoline. DRY-EX insures smooth, spitless, clog-

less motor performance all year long.

Special use of DRY-EX is a *must* for cars that are to be stored. It's also great for flushing hydraulic brake systems.

Millions of motorists are lapping up DRY-EX ads in newspapers and magazines. Display DRY-EX, boost it, and help your customers get this helpful all-year DRY-EX habit.

Call your jobber for DRY-EX today!

DRY-EX

Specialties Division
COMMERCIAL SOLVENTS CORPORATION

17 East 42nd Street • New York 17, New York



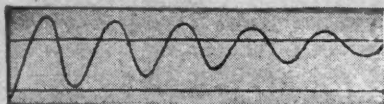
"Don't get mixed up with him—he's a private deceiver!"

Dealers:

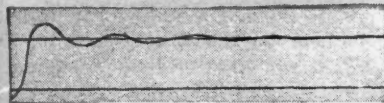
This message is appearing in current
Fleet Publications to produce profit for you.

When a Man is "All In"

*He Can't Go
All Out for You*



STANDARD TRUCK CUSHIONS — Poor take-up of shock followed by rough rebounds. Drivers take up to 50,000 shocks like this a day.



BOSTROM HYDRAULIC SEAT — Soaks up the initial shock and levels out—like a passenger car ride.



THESE ENGINEERING RIDE-GRAPHS

tell you better than words why . . . Safety slips! Schedules lag!

Equipment and cargoes take abuse!

Yes . . . Bostrom hydraulic seats more than pay for themselves by reducing driver fatigue. You get additional savings by cutting seat repair bills. Ask your dealer for a demonstration. For free folder,

"12 Eye Openers Concerning Truck Seats" write:

BOSTROM MFG. COMPANY

133 West Oregon Street • Milwaukee 4, Wisconsin



*There is NO Substitute
for a Bostrom Ride!*

BOSTROM

Bostrom Hydraulic Seats now standard or optional equipment on the following trucks: GMC, Diamond T, Federal, Hendrickson, Peterbilt, Walter, Ward La France, FWD, Dart, Oshkosh, and Coleman. Specify Bostrom Model 47 Seats on your new trucks.

COLD SAFETY FACTS

THE 30th
IN A SERIES OF
PREVENTIVE SERVICE
ARTICLES THAT HAVE
APPEARED IN COLLIER'S
SINCE 1939

Here's the Preventive Service Collier's Prescribes for Safe Winter Driving

Remember how it was last winter when you put off preparing your car for winter driving until the last minute? Remember that first cold night when all you could do was hope and pray? You lay awake... remember?... fearful of a cracked block, worried about expensive repairs... and the next day you RUSHED down to the service station. What a sigh of relief... when you found no really serious damage. That was the day you said, "Never again!" Remember?

Well, how about it? Here we are right on the threshold of winter. Once again the time has come for winter car care. And once again Collier's, in the interest of safe, trouble-free driving, reminds... yes, urges you to visit your service man right away. Why not do it today? Have him render the Preventive Service for winter that Collier's suggests. Then just sit back and relax. Your car will be able to "take it"... and you will have peace of mind.



Preventive Service
for
Motor Car Owners

P.S.



Sponsored by Collier's
For Reasonable, Safe Driving

Collier's Helps You Get More Early Winter Tune-Up Business

A certain amount of winter business is automatic . . . for example, the last minute rush for anti-freeze and chains. But the **REAL BUSINESS** . . . the desirable and profit-making business . . . is the *early* Winter Tune-Up business . . . the Preventive Service business done **BEFORE THE RUSH** with those better customers. And that's the business Collier's P. S. helps you get.

This two-page winter service message appearing in the October 30th issue of Collier's is really **YOUR** advertisement. It is read in **YOUR OWN NEIGHBORHOOD** by people who are either good customers or good prospects of **YOURS**. To help you bring these people **TO YOUR DOOR**, Collier's offers you a mailing piece, imprinted with your name, and a large window poster.

Don't delay. Write today to Collier's Promotion Department, 250 Park Avenue, New York 17, N. Y. Let Collier's help you make more profit this winter.

Collier's

P.S.

Preventive Service

ignition engines are now consuming gasoline at the rate of approximately 2,400,000 barrels per day. This compares with a total consumption of about 5,400,000 barrels of crude petroleum per day.

"Accordingly, it is essential, if our present standard of living is to be maintained, that we utilize the gasoline produced from our petro-

leum resources as effectively as we possibly can," the Campbell-Carist-Withrow paper said.

With present commercial gasolines of from 70 to 90 octane, suitable for engines within the 5 and 7-to-1 compression range, tests show "that on an indicated horsepower basis an engine converts from 20 to 33 per cent of the heat

of combustion of the fuel into mechanical energy under full-throttle conditions," the report said.

With compression ratios of 12 or more to 1 and the use of selected or higher octane fuels, "the thermal efficiencies . . . approximate values as high as 40 per cent," the GM researchers reported.

"Accordingly," they concluded, "there is a strong incentive from the standpoint of increasing engine efficiency to progress in two directions: (1) To prepare commercial gasolines which are composed of desirable types of hydrocarbons (i.e., with higher octane ratings), and (2) to raise compression ratio to the top limit permissible with presently available fuels."

Starter and Generator BEARINGS



from stock

Immediate delivery from stock is now possible on Johnson Bronze Starter and Generator Bearings for all popular makes of cars, trucks and buses. The same is true of related parts such as water pump, steering knuckle, clutch pilot, propeller shaft, spindle and spring bushings. And every item in the line is the same, genuine top quality . . . identical in precision and finish with original equipment. There are no second or third grades of Johnson Bronze merchandise.

Twenty strategically located warehouses are ready to serve you. Why not check over your needs now? Then send in your order. Let us prove our excellent service. The bearings will prove their quality through performance.

New Catalogue

Lists and describes a complete bearing service for all cars and trucks. It's FREE.

JOHNSON BRONZE
SLEEVE BEARING HEADQUARTERS
455 S. MILL STREET NEW CASTLE, PA.



How Regulation W Affects Car Transactions

CONTINUED FROM PAGE 58

The board said that the requirements of the new regulation are somewhat less restrictive than those which expired November, 1947, but it pointed out that the new requirements are considerably tighter than terms now generally in effect.

In explaining how to calculate down payments for automobiles, the board has this to say:

"The maximum loan value of any automobile shall be the specified percentage of the cash price

CONTINUED ON PAGE 128

DELCO HAS EVERYTHING!

TABLE MODELS

PORTABLES

CONSOLES

COMBINATIONS

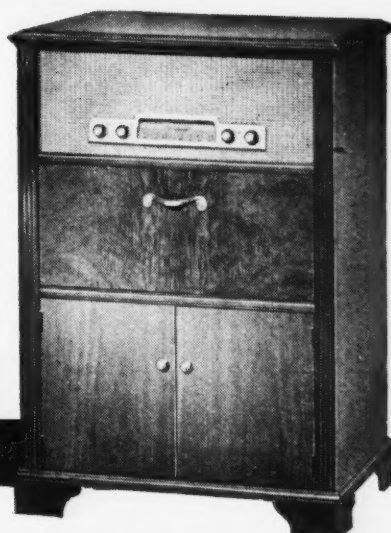
AM-FM

Stock Early!

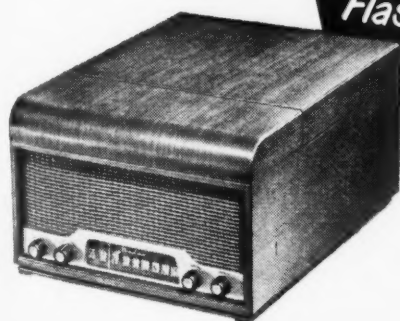
**Get Ready for the Christmas Demand
with *Delco* Home Radios**

With two brand new combinations added to the Delco line of home radios, it is sure to be a "Delco Christmas" in many thousands of homes!

For now there are Delco radios—table, console and portable models, also Delco combinations with manual and automatic record changing—in all price ranges. The *variety* and *volume* of the Delco merchandise gives you "something for everybody." For information on this and on other popular United Motors lines, talk to your United Motors distributor or write to United Motors Service, General Motors Building, Detroit 2, Michigan.



Flash! Two New Combinations



Delco Model R-1245 Console (Walnut), Delco Model R-1246 Console (Mahogany)—This fine console is destined to be a leader in the low priced field. Five tubes plus rectifier—A.C. 110-volt—maximum output, high fidelity tone. Automatic record changer (10-12" or 12-10" records) in pull-out drawer—ample storage for records. Cabinet in choice select veneers.

Delco Model R-1244 Table Model Combination—Five tubes plus rectifier—A.C. 110-volt operation—standard broadcast 530 to 1615 K.C. Cabinet of select walnut veneers, dimensions 15" wide, 20" deep, 9 3/4" high. Automatic record changer for 10-12" or 12-10" records. From this model the buyer will get excellent reproduction of recorded music and fine reception of standard broadcasts. Popularity—unlimited!



*Ask about
DELCO'S
"PACKAGED
PROFITS"*

UNITED MOTORS SERVICE

DIVISION OF GENERAL MOTORS CORPORATION • GENERAL MOTORS BUILDING, DETROIT 2, MICHIGAN

DELCO Batteries
AC Fuel Pumps, Gauges
and Speedometers
INLITE Brake Lining
SAGINAW Jacks

DELCO Radio Parts
HYATT Roller Bearings
DELCO Auto Radios
DUREX Gasoline Filters
HARRISON Heaters
DELCO Home Radios

DELCO Shock Absorbers
NEW DEPARTURE
Ball Bearings
GUIDE Lamps
HARRISON Thermostats

DELCO-REMY Starting,
Lighting and Ignition
KLAXON Horns
HARRISON Radiators
DELCO Hydraulic Brakes

DU PONT HELPS YOU 4 WAYS

Plan now to tie in with this money-making program

Why it's wise to have your serviceman inspect the cooling system before putting in anti-freeze

YOU BUY anti-freeze to protect your motor from a freeze-up and to help it run more efficiently by keeping the cooling system free from rust. If anti-freeze leaks out, what have you got? NO protection... maybe a ruined engine block. Heavy expense, your car laid up. (And you've lost your anti-freeze.) So, before installing anti-freeze, have the cooling system gone over. No repairs may be needed—but even a simple inspection is worth what it may cost. Here's what a cooling system inspection should include:

- 1. INSPECT RADIATOR**—If it's rust-damaged, it should be drained and cleaned. (Du Pont Cooling System Cleaner is one of the best for the job.)
- 2. CHECK FOR LEAKS**—Radiator hose, hose clamps, and pump should be tight. If repairs or replacements are needed, serviceman will indicate them.
- 3. TRY CYLINDER HEAD BOLTS**—If they need tightening, it calls for a special tension wrench. Your serviceman has the tools and the know-how.
- 4. CHECK FAN, BELT AND HEATER**—Slipping belts should be adjusted—replaced if worn. Heater hoses should drain properly and not trap air.
- 5. PUT IN ANTI-FREEZE**—A "Zerone" or "Zerex" chart shows amount needed. Radiator tag identifies anti-freeze, warns against draining. *See U.S. Pat. 1,972,000.

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

For great entertainment by great stars, don't miss the Du Pont "Cavalcade of America"—on NBC stations every Monday evening in the anti-freeze season.

1 IN MAGAZINES

Du Pont will urge motorists in nationwide "Zerone"*-"Zerex"* advertisements (see above) to invest in a thorough cooling system check-up by you before putting in anti-freeze. Full pages in four colors will run in Life, Collier's, The Saturday Evening Post, and Country Gentleman.

2 IN NEWSPAPERS

Thus millions of motorists about to buy anti-freeze will be reminded of the value of this pre-installation check-up—that "even a simple inspection is worth what it may cost." This should result in substantially more business for you.

Advertisements carrying a similar message will appear in more than 500 leading newspapers throughout the country (see below). In addition, these advertisements will tell motorists to see you *early*—to give you time to do a good job. This will help to save you from that "first-freeze stampede."

This newspaper campaign will be gauged to meet local conditions of weather, competition, and supply.

Don't put in a drop of anti-freeze
...until you read this message from Du Pont

The first freeze may strike any day. Now is the time to get your anti-freeze. But for your car's protection—no matter whose anti-freeze you buy...

But if your anti-freeze leaks out you have NO protection from a freeze-up... maybe a ruined engine block. (And you've lost the anti-freeze your good money bought.)

So, before installing anti-freeze, have your serviceman give the cooling system a thorough check-up. No repairs may be needed.

THIS FALL

SPECIAL OFFER A DU PONT ANTI-FREEZE *plus our* COOLING SYSTEM CHECK-UP
Beat the freeze... get it NOW!



3 AT YOUR PLACE OF BUSINESS

Make sure you get your "Zerone"—"Zerex" Advertising Kit from your distributor—and put up the eye-catching window display shown above. This is designed not only to sell anti-freeze but to boost your business in cooling system chemicals, parts, and service.

This dealer kit includes a helpful Protection Chart and Merchandising Folder. Put up the Chart where it's handy and folks can see it when they drive up. And use the money-making tips in the folder.

4 ON THE RADIO

"Zerone" and "Zerex" are the only anti-freeze brands advertised on a nationwide radio program. Announcements about them will be made on Du Pont's "Cavalcade of America," which reaches up to 12 million listeners Monday evenings.

This whole program will not only build your business and help you sell your Du Pont anti-freeze this fall, but it will put the names "Zerone" and "Zerex" on the lips of the country's car-owners—and make your selling job easier in the days of heavy competition ahead.

*REG. U. S. PAT. OFF.



BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

or of the *appraisal guide value*, whichever is lower, and the required down payment shall be the difference between the cash price and the maximum loan value as so calculated.

"Such required down payment in the case of an automobile may be obtained in the form of cash, trade-in, or both.

"'Appraisal guide value' means the estimated average retail value as stated in the current edition of any regularly published automobile appraisal guide that the board designates for this purpose for use in the territory in which such automobile is sold, plus any applicable sales taxes."

The board adds that information

as to the guide or guides designated for any given territory may be obtained from any Federal Reserve Bank or branch.

Auto-Lite Acquires Huge Cincinnati Plant

Royce G. Martin, President and Chairman of the Board of The Electric Auto-Lite Company of Toledo, Ohio, has announced the signing of a contract for the purchase from the War Assets Administration of the former Wright Aeronautical Plant at Lockland, Ohio, twelve miles from downtown Cincinnati.

Under the contract, Auto-Lite took immediate possession of the huge plant, which occupies an area of about 200 acres, and will acquire title to about 4,500,000 square feet of floor area.

Under the terms of purchase, the Government retains ownership of the three foundry buildings, totaling approximately 900,000 square feet, at the south end of the property. It is proposed that Auto-Lite maintain these properties for the Air Force in standby condition, under contract.

Mr. Martin said that it is in the replacement parts field and in service to general industry that the company expects to use the Auto-Lite Lockland facilities to the greatest advantage.

Tough U.S. AXLES

Keep the fleet moving ... day and night ... with fewer breakdowns, lower maintenance costs. We save time & dollars with U.S. Axles always. Try 'em! At your Jobber.



Free: New catalog! Contains listings U.S. heavy duty replacement axles for Army Surplus trucks. Write! The U.S. Axle Co., Inc., Pottstown, Pa.



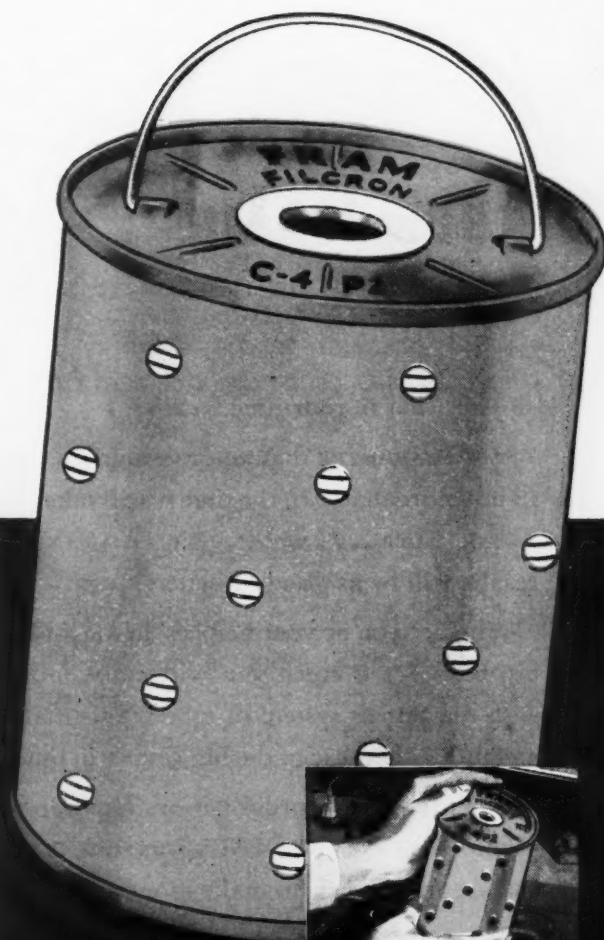
"If she burns as much gas as you say she does, the only thing I can suggest is a bigger gas tank!"



***NOW*—America's Finest
Filtering Media Enclosed
in a Metal Container!**

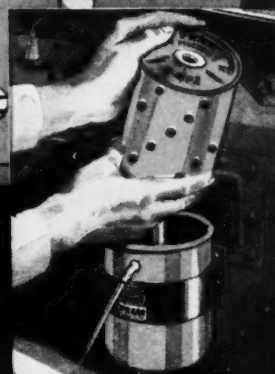
THE FRAM FILCRON CARTRIDGE

FRAM has done it again! Here's another Fram engineering triumph! Now you can sell the famous Fram Filcron Cartridge enclosed in a sturdy metal container . . . extra convenience . . . extra profits for you! The famous Fram Filcron Cartridge, used by the Army on every battle front, soon proved America's outstanding filtering media. It's easier-to-sell, more efficient than ever, because it comes to you in an attractive, bright orange metal container that securely *holds* all the dirt the cartridge traps, prevents *any* foreign matter from getting back into the lubricating system. And since the Fram Filcron Cartridge is *sealed-in* the container, it's easier to remove, easier to handle! Fram Corporation, Providence 16, R. I. In Canada: J. C. Adams Co., Ltd., Toronto, Ontario.



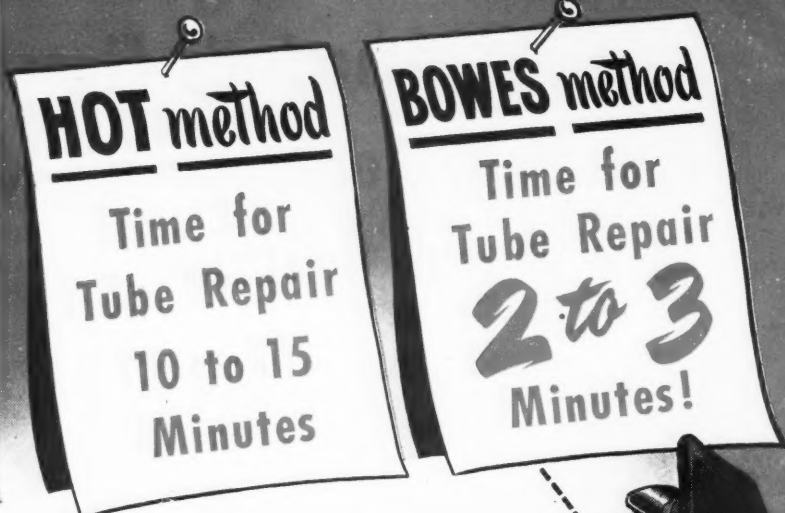
LOOK AT THESE FEATURES!

- The finest filtering media ever produced!
- All dirt trapped is held in the metal container!
- Metal container makes it easier to remove!
- Cleans oil in one pass!
- Highest clean oil flow rate!
- Will NOT remove detergents or additives from oil!
- Will remove particles down to one micron (.000039") in size!
- Built-in grommets—positive seal!



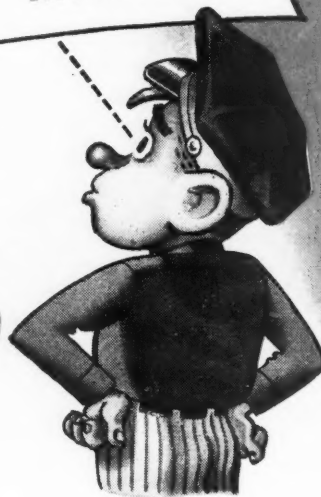
FRAM *Oil Air Fuel* **FILTERS**

Let's Look at the Figures!



Make more money

... with BOWES
Chemical Process
TUBE REPAIR



● Just what is your time worth?

WE GUARANTEE that you can apply a BOWES patch in not more than *half* the time it will take you to apply a "hot patch" . . . and . . . WE GUARANTEE that the results will be as good or better.

Whether you or your helpers do the job—time is the big cost. It's a cinch you will make more "dough" with the Bowes system of tube repair than any other method . . . because of the big saving in time.

Don't take our word for it . . . let your Bowes Distributor PROVE these FACTS to you . . . that is . . . if you are in business to make money.

BOWES



BOWES "SEAL FAST" CORPORATION
INDIANAPOLIS 7, INDIANA

Federal Truck Announces Medium & Heavy Duty Line

A postwar line of diesel-powered medium and heavy duty motor trucks has been announced by Federal Motor Truck Co., Detroit, Mich. This line features two basic models, D29M and D65MA comprising four different trucks. Comparison of wheelbase options will show that the diesel models follow the same pattern as the gasoline-powered vehicles now in production.

These models are similar in sheet metal and outward appearance to the gasoline models. The only noticeable difference is in the D65MA where the hood length is 7-in. longer than on the corresponding gasoline model.

The three D29 Series models are powered with the Hercules DJXHF diesel engine. The Model D65MA has the Cummins HB-600F diesel engine as standard equipment. As optional equipment, at extra cost, Federal can supply the Cummins 200-hp NHB-600F diesel where additional power is desired. In each case the engine models supplied by Federal incorporate certain basic changes in specifications to suit the special requirements of the vehicles.

All engines are installed with a three-point non-metallic mounting. The Hercules engines feature a

CONTINUED ON PAGE 132



"I got cold!"

It's easy to do
the job right

...with

MOPAR Engine Parts



Yes, it's easy . . . and *profitable*, too!

For when you use MOPAR parts you do a better job—easier and faster. And that's what makes *satisfied customers* and *more profits* for you.



THEY'RE MADE RIGHT!

MOPAR parts must meet the exacting specifications of Chrysler Corporation engineers. That's your assurance of high-quality, durable replacement parts.

THEY FIT RIGHT!

Factory inspection guards the accuracy of MOPAR parts. That's why they're perfectly fitted to do their job . . . why they're consistently easy to install in cars and trucks built by Chrysler Corporation.



THEY WORK RIGHT!

MOPAR parts give the extra miles of dependable performance that helps keep your customers satisfied . . . helps build valuable repeat business for you. No wonder it's so easy to do the job right, when you use MOPAR parts.

THEY'RE EASY TO GET!

You can get MOPAR parts and Service Packages for Plymouth, Dodge, De Soto, or Chrysler cars, and Dodge "Job-Rated" trucks from dealers for these vehicles. You'll find a complete stock of parts including engine gasket sets, ignition cable sets, pistons, piston rings, valves and valve guides, connecting rods, and other related parts.



CHRYSLER CORPORATION • PARTS DIVISION • DETROIT 31, MICHIGAN



Factory Engineered and Inspected for
PLYMOUTH • DODGE
DE SOTO • CHRYSLER CARS
DODGE "Job-Rated" TRUCKS

counterweighted crankshaft with Tocco-hardened journals. The Cummins engines have Tocco-hardened crankshafts and are fitted with torsional vibration dampers. Main and connecting rod bearings on the three engines are of steel-back precision type, Hercules using a bearing alloy of high lead bronze composition, and Cummins of copper-

lead alloy. The fuel injection pump on the Hercules engine is of plunger type, chain driven. In addition, the Hercules engine is fitted with a Bendix "Convac" vacuum pump, belt driven.

The Hercules DJXHF engine has nickel alloy intake valves, Silchrome exhaust valves; with intake valve diameter of 2-in., and exhaust valve

diameter of 1 9/16 in. The Cummins engines are fitted with alloy steel exhaust valves and Stellite-faced exhaust valve seats. Crankcase oil capacity on the Hercules engine is 9 qt., including the oil filter; on the Cummins, 20 qt.

Since the combinations of axles and transmissions and other details vary from one model to another and, moreover, vary in accordance with the requirements of individual truck operators, it is not practical to list the variety of chassis options offered in this line. Generally speaking the D29 Series has chassis details quite similar to those of the 29 Series gasoline models. The D65MA, on the other hand, while similar to the gasoline models offers many modifications and optional axle and transmission combinations to suit the requirements of heavy duty diesel service.

The D29 Series features the Hotchkiss drive system of suspension while the D65MA has radius rod drive. As standard equipment, the D29M has the Timken hypoid rear axle and five-speed direct drive transmission; the D29M2 is provided with a Timken two-speed hypoid helical double reduction rear axle, and five-speed direct drive transmission; while the D29MA uses the Timken hypoid gear rear

CONTINUED ON PAGE 134



ANY service station that uses Warco Brake Fluid for the first time soon learns that it is uniform in action. As dependable for top performance tomorrow as today. This is true because the many qualities that distinguish Warco from ordinary brake fluids are under rigorous laboratory control through constant testing.

Made in two formulas—grade A for passenger cars, and grade A Heavy Duty for trucks and large cars. Both guaranteed to mix with any other standard brand.

OUTSTANDING WARCO PROFIT BUILDERS

WARCO Grade "A" Hydraulic Brake Fluid
WARCO Grade "A" Heavy Duty Brake Fluid
WARCO Shock Absorber Fluid No. 200
WARCO Knee Action and Shock Oil No. 100

WARCO Mo-Tun-Up WARCO "K.O." Carb
WARCO Radiator Flush WARCO Radiator Solder
WARCO Rub-A-Lube WARCO Engine Weld
WARCO Penetrant WARCO Jack Oil
WARCO General Purpose Oil WARCO Gasket Cement
WARCO Windshield Cleaner

WARCO Replacement Universal Joint Boots

WARWICK LABORATORIES CO.

334-42 Cleveland Street

Brooklyn, N. Y.

*Demand
Warco Products
from your jobber.
Beware of
Substitutes*



WARCO

Factory Sales From U. S. Motor Vehicle Plants*

Month	1948	1947
PASSENGER CARS		
June.....	312,406	307,124
6 Months.....	1,775,884	1,721,391
July.....	358,582	279,631
7 Months.....	2,132,446	2,001,022
TRUCKS		
June.....	117,572	91,620
6 Months.....	705,184	618,128
July.....	116,802	97,755
7 Months.....	821,986	715,883
BUSES		
June.....	1,055	1,628
6 Months.....	7,253	9,128
July.....	1,003	1,806
7 Months.....	8,256	10,934
TOTAL MOTOR VEHICLES		
June.....	431,033	400,372
6 Months.....	2,488,301	2,348,647
July.....	474,387	379,192
7 Months.....	2,962,688	2,727,839

*—Automobile Manufacturers' Association.



**These four essentials
comprise the
Complete Paint Shop**

- 1. A Spray Booth...** providing adequate exhaust, scientific illumination and positive dust protection.
- 2. An Assortment of Spray Equipment...** for factory quality results on all kinds of jobs with any spray material.
- 3. An Adequate Air Compressor...** to provide ample low cost air for all paint shop and service requirements.
- 4. Hose and Connections...** designed and built specifically for spray painting service.

with this Complete Paint Shop that's packed with earning power

More than one and three quarter million cars were completely refinished in 1947. And there were well over six million major and minor touch-up jobs. The figures for 1948 look even more promising. So now is the time to get into the big dollar repainting business in a big way.

The DeVilbiss Paint Shop, complete in every detail, equips you to do "Factory-Quality" repainting and to do each job easier and faster—which means more profits. Because it includes specialized guns and equipment to handle all types of paint jobs even to the extent of providing facilities for applying underbody coating, operators reap extra profits from every phase of auto painting. And the DeVilbiss distributor will give you complete details on how you can capitalize on today's tremendous refinishing market.

THE DEVILBISS COMPANY • Toledo 1, Ohio
Canadian Plant: WINDSOR, ONTARIO

DEVILBISS

means Quality in all four...



**SPRAY EQUIPMENT
EXHAUST SYSTEMS
AIR COMPRESSORS
HOSE & CONNECTIONS**

axle in combination with a five-speed direct drive transmission and a Brown-Lipe three speed auxiliary transmission.

The D65MA offers as standard equipment the Timken S-200P hypoid-helical, double reduction rear axle in combination with a Spicer 7741 four-speed transmission and with the additional Spicer 703-F

three-speed auxiliary transmission.

The electrical system on all models follows the Federal practice of having three separate sets of wiring harness with one fuse for each circuit and three spares. On the D65MA the electrical system has a 12-volt, 600-watt Delco-Remy generator; all other models use a 12-volt, 300-watt Delco-Remy gen-

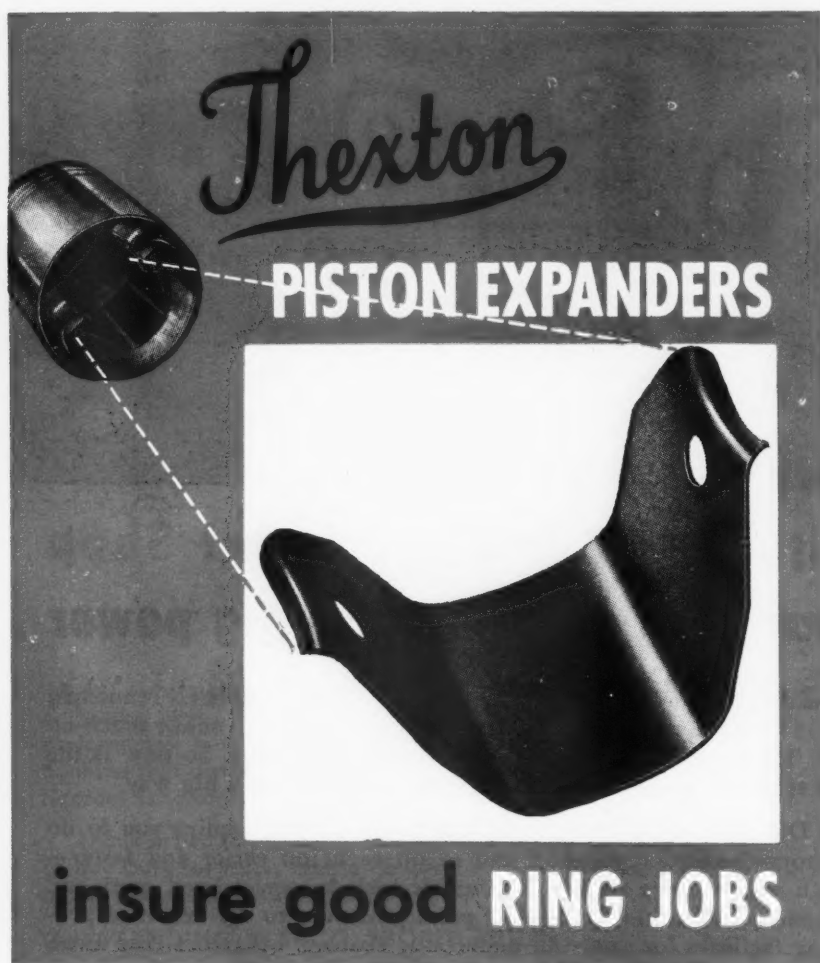
erator. All models are equipped with a 24-volt D-R starter. Each model is fitted with four, 19-plate, 6-volt batteries.

Radiator cores have greater cooling capacity and are of fin-and-flat-tube types on all models. Water pumps are of large packless type on the Hercules engine; and of circulating centrifugal type on the Cummins.

The D29M and D65MA are equipped with the Gemmer triple tooth worm and roller type steering gear with a ratio of 20.4 to 1 on the D29M; 28.4 to 1 on the D65MA.

The front brakes on the D29 Series are Lockheed hydraulic while rear brakes are Timken dual primary hydraulic with Hydrovac vacuum self-contained power booster unit. Brakes on the D65MA are of heavy duty air type—using a Bendix-Westinghouse 12-cu. ft. air compressor with two air reservoirs. Front brakes on this model are Timken-Westinghouse while rears are Timken "P" Series type. The D65MA also features the Tru-Stop parking brake—16-in. diameter, four-shoe type having a lining area of 122 sq. in.

The standard cab supplied on all models weighs 507 lb. In addition, Federal offers a sleeper cab weighing 960 lb.



Thexton
PISTON EXPANDERS
insure good RING JOBS

CURVED LIP, SLIDING ON PIN BOSS, compensates for variations in heat expansion so that pressure is constant at any temperature.

Same Low Price Since
Introduction of Expander
LIST PRICE—6-CYL. SET

\$1.88

Sold through Your Jobber



Thexton MANUFACTURING CO.
1313 Winter Street, Minneapolis 13, Minn.
Products the mechanic knows and trusts



"Yoo, hoo, anybody home?"



NOW! . . . Sensational New Packaging for **CAMPBELL TIRE CHAINS**

Campbell Passenger Car Tire Chains and Cross Chains are now packed in specially designed reinforced boxes. The durable construction of the metal-edge boxes for Lug-Reinforced* and Highway Service chains provides a handy storage box for the chains at all times. The boxes are plainly marked for easy identification when you store them or stack them in displays. A handy chain applier is supplied with each pair. Tire Chains are packed six pairs to a shipping carton and Cross Chains six boxes of 50 each to a shipping carton. International Chain & Mfg. Company, York, Pa.

*U. S. Pat. No. 2,093,547
Canadian Pat. No. 223,568



CAMPBELL *Lug-Reinforced* TIRE CHAINS

THE CHAIN WITH THE SAW-TOOTH GRIP



The Philadelphia Automobile Trade Assn. recently featured a Cavalcade of Cars. Shown standing is Edward J. Ronan, chairman of the planning committee, and seated, from left to right, Guy Parsons, of the Police dept., Regs Beauchamp, of the Phila. Bulletin, and Dick McMeekin, of P.A.T.A.



THE NEAPCO GUARANTEE

For years, Neapco's Orange Box has been your unequivocal guarantee of quality. This improved Orange Box pledges the same guarantee. Always specify Neapco, America's Most Complete Independent Line of Universal Joints and Parts.

New England Auto Products Corp.,
Pottstown, Pa.



Displays at Packard Interest All Employees

How Packard Motor Car Company advertising in newspapers and magazines makes their jobs "steadier and more secure" is being told to the company's 10,500 employees by displays of proofs of the latest insertions, located at time clocks and water coolers in the mile-long Detroit plant.

More than 10,000 employees of the Packard Motor Car Company are learning just how advertising makes their jobs "steadier and more secure."

At time clocks and water coolers, where employees pause several times daily throughout the mile-long Detroit plant, special framed displays feature up-to-the-minute proofs of newspaper and magazine advertising. A terse, clear interpretation of the advertisement and why advertising is important to the Packard employee shares in the display.

G. T. Christopher, president and general manager, cited the explanation under the headline, "Advertising At Work—For YOU!" with an arrow pointing to advertisement.

"By helping build a backlog of orders for our cars," the caption reads, "Packard advertising works to make your job steadier . . . and more secure."

Morton Salt Case May Affect Parts Industry

The recent Supreme Court decision in the Morton Salt case which banned what the Federal Trade Commission describes as "unjustified quantity discounts" is under careful study to determine its effect on the auto parts and tire industries.

The Court ruled that the FTC is authorized by the Clayton Act "to bar discriminatory prices upon the 'reasonable possibility' that different prices for like goods to competing purchasers" may have the effect of substantially lessening competition or injuring, destroying or preventing competition. The Commission need not show actual injury to competition under the Court's ruling.

CONTINUED ON PAGE 138

Job-Packaged Cork Gaskets

simple to order...handy to use



Armstrong-Victor's "Job-Packaged" Cork Gaskets save time and trouble two ways.

1. "Job Packages" are easier to order from your jobber. Instead of calling for individual gaskets, you simply pick up the right "Job Package."

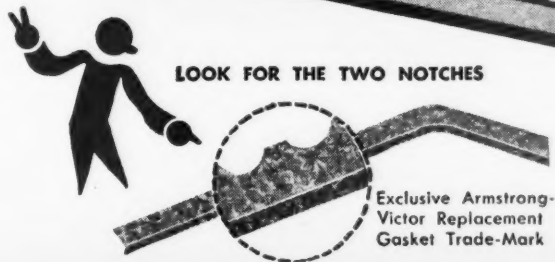
2. In each "Job Package" you find all the cork gaskets you need for a given repair operation. It's handy—it's simple. You're never held up on the job because a needed gasket was overlooked.

And when you open the latex seal of an Armstrong-Victor "Job Package," you'll find fresh, flexible cork gaskets. A separate waxed lining on the inside of the package gives the gaskets extra protection.

Armstrong-Victor "Job Packages" are available for all popular makes of cars, buses, trucks, tractors, and stationary engines. Every A-V gasket meets the manufacturer's original equipment specification.

Telephone your jobber today for Armstrong-Victor Cork Gaskets in the new "Job Packages." See for yourself why it pays to say "Armstrong-Victor" when you buy cork composition gaskets.

LOOK FOR THE TWO NOTCHES



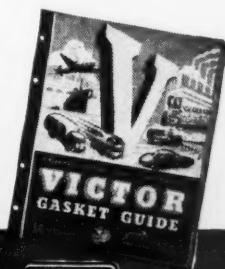
Exclusive Armstrong-Victor Replacement Gasket Trade-Mark

VICTOR GASKET GUIDE

Victor publishes the most comprehensive Gasket Guide compiled—contains:

1. Factory numbers with Victor numbers.
2. Special indexing where there are numerous motor models.
3. Markings to show gasket set contents.
4. Up-to-date gasket popularity ratings.

Victor Manufacturing and Gasket Company, 5750 Roosevelt Road, Chicago 90, Illinois.



Armstrong-Victor



They Said It Couldn't Be Done ... But It Was!



Desludging an 8-Year-Old Taxi With Magnus 755 Without Tear-Down!

AN OUTSTANDING EXAMPLE of what Magnus 755 does is provided by the recent experience of a Magnus representative with a Southern taxi fleet.

They'd always "been from Missouri" when he told them what #755 could do, but this particular morning they hauled out a 1941 Chevrolet taxi and told him to see what he could do on *that* one!

He drained the oil, put in Magnus 755 and ran the engine at idling speed for an hour. Then the crankcase was drained, one gallon of kerosene plus a quart of #30 oil was put in, and the engine flushed and drained.

That was when the Magnus man had the laugh on the doubters! That old engine, sludged to the limit as a result of its stop-and-go operation, was as clean as a whistle. Screen, pan, engine, were almost factory-clean. Varsol poured in the oil line ran full flow out of all six lines at the same time.

The chances are that you'll find a passenger car as badly sludged as that taxi only once in a blue moon. But just remember that you can tackle *any* car brought into your shop and clean out the sludge without dismantling—at a mighty attractive profit.

Put #755 to work for your bank account!

MAGNUS CHEMICAL COMPANY
174 South Ave., Garwood, N. J.
IN CANADA — MAGNUS CHEMICALS, LTD.
4040 Rue Masson, Montreal 36, Que.
Service representatives in principal cities.



Morton Salt Case

CONTINUED FROM PAGE 136

The Commission had found that Morton's quantity discount schedule and certain other discounts granted to some purchasers were unlawfully discriminatory. It held that these quantity price differentials were not shown to be justified by reason of differences in the cost of manufacture, sale or delivery resulting from the differing methods or quantities in which its salt was sold or delivered, and that other "special" discounts were not made in good faith to meet a competitor's equally low price.

The Supreme Court held, in the majority opinion written by Justice Black, that the Commission was justified in finding that "the competitive operations of certain merchants were injured when they had to pay respondent substantially more for their goods than their competitors had to pay."

Another ruling was to the effect that price differentials which would otherwise constitute unlawful discriminations in price are not exempt from the statutory ban because they are based upon a general quantity discount schedule open to all purchasers, but of which only large purchasers are in a position to take advantage. After noting that only five large chain stores have ever bought sufficient quantities of salt to qualify for one of the quantity discount brackets, the Court said:

"Theoretically, these discounts are equally available to all, but functionally they are not. The legislative history of the Robinson-Patman Act makes it abundantly clear that Congress considered it to be an evil that a large buyer could secure a competitive advantage over a small buyer solely because of the large buyer's quantity purchasing ability. The Robinson-Patman Act was passed to deprive a large buyer of such advantages except to the extent that a lower price could be justified by reason of a seller's diminished costs due to quantity manufacture, delivery or sale or by reason of the seller's good faith effort to meet a competitor's equally low price."

2 MARKS THAT HELP YOU SPOT THE PISTON LEADERS...

LO-EX in the Piston



NAME on the Box

When you install a piston job, it pays to give your customer results he'll "talk up" to his friends—smoother power, better compression—a cooler, quieter motor that's easy on gas and oil.

You can do it with Lo-Ex Pistons—cast by Alcoa, finished by leading manufacturers. T-slot design and cam grinding make these lightweight pistons fit closer. And because they're made of high-performance Alcoa Aluminum Alloy, Lo-Ex Pistons get rid of heat fast, reduce engine wear.

Don't stake your reputation on "just any aluminum pistons". Install genuine Lo-Ex Pistons of Alcoa Aluminum.

ALUMINUM COMPANY OF AMERICA

Makers of Lo-Ex Piston Castings of Alcoa Aluminum

2133 Gulf Building, Pittsburgh 19, Penna.

Sales Offices in Principal Cities

LO-EX *Pistons* of Alcoa Aluminum

Registered Trade Mark



New Products CONTINUED FROM PAGE 46

For further information use coupon on page 46.

62—Barcalo Merchandiser

The Barcalo Mfg. Co., of Buffalo, N. Y., has announced the new merchandiser. This counter display, which houses a small stock of tools including wrench sets and individual wrenches, is designed to increase sales of tools by acting as a "silent salesman."

63—Anti-Freeze Tester

E. Edelmann and Co., of Chicago, Ill., are introducing a new anti-freeze tester, the main feature of which is the "Self-Calculating" two-step reading. This is said to enable the user to obtain the reading by drawing the solution into the instrument, reading

the float, and turning the cap to the proper color band. The float letter appears at the bottom of the column, and the freezing point at the top of the red thermometer column. The annealed glass jar is protected by three brass guards, and the thermometer and jar float in rubber which, according to the manufacturer, makes the instrument virtually breakproof.

The manufacturer states that this cartridge is not dangerous and there are no breakable parts in the iron.

64—Bonney Plier Set

The Bonney Forge and Tool Works, Allentown, Pa., announces their small plier set No. 14, containing three pliers 4 in. in length. These pliers, the manufacturer states, were designed particularly



**"HYPRESSURE JENNY
SAVES 90% OF OUR TIME
formerly wasted cleaning by hand"**

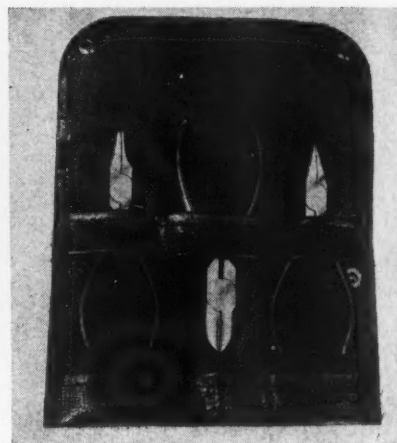
We know that the above unsolicited statement by a garage owner is true because time studies, and thousands of users have proved that Hypressure Jenny cleans 10 times faster, and better, than you can clean by hand.

Hypressure Jenny steam cleaning before repairs, saves up to 40% of the time mechanics ordinarily waste wiping oil and grease from tools and equipment. Figure it out in dollars and cents, and you'll see why Hypressure Jenny will pay for itself within the first few weeks.

A Full-Powered, All Purpose, Heavy-Duty Hypressure Jenny is available from \$388.00 to \$555.00. JO Deluxe Model shown.

Besides saving you money, Hypressure Jenny will make you extra profits flushing cooling systems . . . cleaning motors and chassis . . . preparing cars for undercoating, and by performing dozens of other profitable customer services.

In addition Hypressure Jenny will keep your floors, walls, windows, lifts, grease pits, lavatories, etc., clean as a pin . . . reduce fire hazards . . . lessen your insurance risk.



for ignition, starter, generator, carburetor and instrument work. The set consists of one flat nose plier, one short chain nose plier, and one diagonal cutting plier, packaged in a leatherette kit.

65—Protect-O-Door

A. N. McCreight, of DuBois, Pa., is marketing a plastic door upholstery cover known as Protect-O-Door, which consists of a specially designed transparent plastic, which is water, grease, and flame proof and runs the length of the door. It is also claimed to be non-discoloring and will not dry out with age. The Protect-O-Door is designed to save the door upholstery and bring out the color. It can be cleaned by wiping with a damp rag.

MAIL TODAY

Fill out this coupon for a FREE SURVEY of your cleaning requirements and an estimate of the SAVINGS you can make with Hypressure Jenny. No obligation.

**HYPRESSURE
JENNY DIVISION
HOMESTEAD VALVE
MANUFACTURING CO.**
"Serving Since 1892"
Coraopolis, Pa.

REQUEST FOR SURVEY

Hypressure Jenny Division,
Homestead Valve Manufacturing Co., P.O. Box 95-1, Coraopolis, Pa.

We employ mechanics on repair work.

We overhaul or recondition ☐ cars, ☐ trucks, ☐ buses each month.

We paint ☐ cars, ☐ trucks, ☐ buses each month.

We wash approximately ☐ cars, ☐ trucks, ☐ buses each month.

We are interested in cleaning ☐ floors, ☐ walls, ☐ windows,

Based on above facts, please show us the savings or extra profit Hypressure Jenny can produce.

Company

By Title

Address

City State

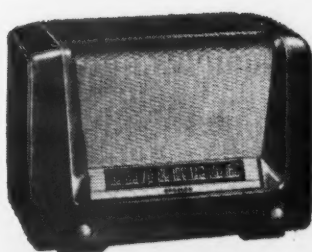
Got those yearnings
for bigger earnings?



CASH IN ON THE
BIG NAME
IN RADIO
CROSLEY

**Every customer is a prospect
for an all-new 1949
Crosley radio**

Everybody needs an extra radio—for bedroom, kitchen, den, rumpus room, for "personalized" listening every day! Cash in on this need! Display—sell the sensational all-new Crosley radios. Offered to you at prices that give you a generous mark-up, these Crosley radios have style, tone and performance your customers want—at a price they'll pay. And Crosley helps you sell; "sales conditions" your customers with powerful advertising in popular magazines and hometown newspapers, coast to coast. You tie-in locally with sales-sparking ad mats—displays—hand-out pieces—a variety of promotion helps to build traffic, speed-up turnover. Get in on this terrific "profit whoppertunity." Contact your Crosley distributor today!



9-113 Walnut Plastic, AC-DC



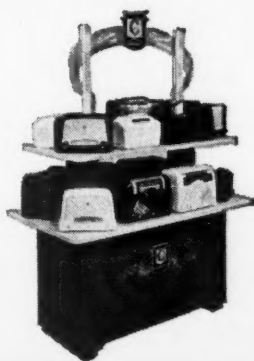
9-121 Walnut Plastic, AC-DC



9-104W Ivory Finish, AC-DC



9-120W Ivory Finish, AC-DC



New! Sensational!
Crosley "Island of Profits"

Magnify your selling space with this beautiful, compact island display. Made of top materials, it has 23 sq. ft. of radio display area—plenty of room for a selling selection. 8 convenient outlets for plugging in radios. Just the ticket to place your Crosley radios in "buying range." Supplied to Crosley dealers at cost!

Shelvador* Refrigerators Frostmasters
Ranges Radios
Radio Phonographs FM
Television Shortwave

*®

CROSLEY

Division—*AVCO* Manufacturing Corporation
Cincinnati 25, Ohio

© 1948

New Products CONTINUED FROM PAGE 140

For further information use coupon on page 46.

66—Hydro-Lift Crane

The Cardinal Corporation, of St. Paul, Minn., is now marketing the Hydro-Lift Crane, which can be used in the shop or on a truck. The manufacturer claims that this crane will lift 2000 lbs. 77 in. in 37 sec. The Hydro-Lift is so designed that it can be converted from a shop

crane to a truck crane, or vice-versa in 30 sec., and the 45 in. boom will swing a full circle.

67—Pedrick Chrome Ring

Wilkening Manufacturing Co., of Philadelphia, its manufacturer, announces the new Pedrick chrome-

faced piston ring. Long wear characteristics, the manufacturer states, are the result of the high anti-friction and lubricant-retaining properties of the chrome face. It is claimed also that the chrome plating reduces cylinder wear and the wear of all the other rings in the installation. Pedrick states that its new chrome-faced ring has three years of development behind it, with exhaustive tests both in their laboratory and on the road. To make full use of the wearability of the chrome a new centrifugally cast, heat-treated alloy was developed for the ring.

68—A P Spray Kit

A P Parts Corporation, Toledo, Ohio, has announced a kit for engine rebuilders to treat parts with dgf-123, the new pre-lubricant recently placed on the market by that concern. The kit has been designed for the small or medium sized re-



builders to pre-lubricate the parts ready for re-assembly. Included in the kit are one quart of dgf-123, one 8 ounce bottle of dgf-123, one quart of carbon tetrachloride (for use as cleaner), one spray gun applicator complete with all necessary attachments, and twelve 8 ounce bottles of Miracle Power. By attaching the spray gun to a low-pressure air source, the operator can treat all parts without the need of a compressor or any special equipment.

69—Divco Cream Flux

The Division Lead Company, Chicago, Ill., announces a heavy, cream-like flux that remains non-fluid and is designed not to run out at normal temperatures. It is now being used

CONTINUED ON PAGE 144

Because . . .
STORM - VULCAN one-cut precision BORING BARS bore without ridges or taper . . . no honing is necessary.

MODEL 220 Boring Bar—light, compact, easy to operate. Bore, 2.2" to 4.2". Travel, 10". Weight, 105 lbs. . . . \$430.00

MODEL BCT-V BORING BAR—Equipped for use with the No. 300 vacuum unit. Bores 2.6" to 5.7". Travel, 15". Two feeds, 1½" and 2½" per minute . . . \$625.00

No. 300 GRIT REMOVER sucks out all chips and grit as boring bar operates \$130.00

UV-45 Rod Straightening PRESS
 Handles all rods from the smallest to large tractor size.

Boring Plates for all popular cars, tractors and industrial engines.

STORM-VULCAN, Inc.
1184 Commerce Street DALLAS, TEXAS 1312 5th Street South MINNEAPOLIS, MINNESOTA

STORM-VULCAN, INC. 3-98
 2504 Commerce Street, Dallas 1, Texas
 Please send literature on:

Name _____
 Address _____
 City _____ State _____

No. U-30 Connecting Rod ALIGNER
 Checks all types of rods to factory accuracy—capacity to 20" length.



LYON *wheel* ACCESSORIES

ARE NOW ON
4,000,000
CARS!

From a strictly profit standpoint, remember this. When you stock Lyon wheel accessories, you're handling America's favorites! They are on millions of cars! It's a success story unmatched in the wheel accessory field. Proving once again that high-quality merchandise at a competitive price always out-sells. Shown at the left are: 1. The WHEELWALL . . . gives overall stainless steel effect blending with the original hub cap. \$11.95 per set of four. 2. America's Favorite WHITEWALL and going strong! Standard model \$6.95. Deluxe model \$9.95 per set of four. 3. DELUXE WHEEL COVER with the distinctive Lyon crest . . . dresses the entire wheel in beautiful stainless steel. \$19.95 per set of four. 4. COMBINATION WHEEL COVER . . . a Whitewall and crested hub cover in one piece, combining the beauty of each. \$17.95 per set of four. All list prices slightly higher in Canada and west of the Rocky Mountains. All items shown are Fair Traded.

LYON INCORPORATED • 13881 W. CHICAGO BLVD. • DETROIT 28, MICHIGAN

New Products CONTINUED FROM PAGE 142

For further information use coupon on page 46.

in Divco Acid Core Solder. It is also said that Divco Semi-Solid Flux does not take on moisture from the air, and when heat is applied, flows on freely. This product is furnished in standard spool sizes and popular grades and sizes as well as solder washers and segments cut and pre-formed to specifications.

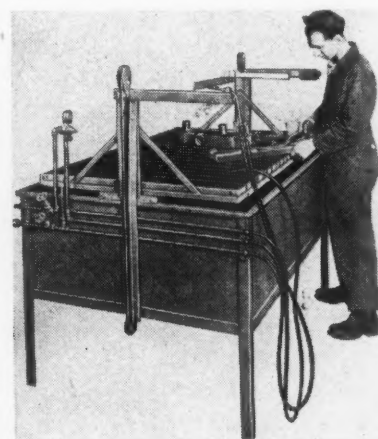
70—Howard Plastic Patch

Howard Paint Division of Reconditioning Products, Inc., of Cleveland, Ohio, is introducing the Howard Plastic Patch, for repairing torn, rusted out sections on automobile and truck bodies and fenders. Plastic Patch is sold in three units depending upon the

thickness of the patch required. Each unit consists of plastic patching material, Plastic patch solvent, Howard New Metal, and Howard's New Metal solvent. Application of Plastic Patch is done in three basic steps . . . preparation of surface, smoothing out plastic patch material over the damaged area, and spraying or brushing Howard New Metal over the patch for sanding or grinding to a smooth feather edge to take any finish.

71—Radiator Test Bench

The Inland Mfg. Co., of Omaha, Nebraska, announces their improved radiator test and repair bench, designed to fit into production line methods and to increase efficiency in radiator work. Basi-



cally, the bench is a tank with an electrically operated worktable to drop work into water for testing. Air pressure applied to the radiator by means of quick-coupling hose allows visual check of any leaks. A flick of a lever raises the worktable upon which work rests. A special radiator soldering torch is one of the accessories incorporated in the bench.

72—Radiator Screen

The J. W. Speaker Corp., of Milwaukee, Wis., is marketing an All Weather Radiator Front, which is installed directly in front of the radiator, designed to prevent exterior clogging of the radiator by catching the bugs. This aluminum screen concealed behind the grille incorporates a stiff bristle brush operated from inside the car to expel the accumulation of bugs from the screen.

EVERHOT

Universal PARTS & FITTINGS

for ALL HOT WATER HEATERS

Any repair shop, car dealer or service station operator can be a heater repair expert with this EVERHOT Display Assortment of popular parts and fittings for all hot water heaters.

Contains Parts and Fittings for Ford V-8, Chevrolet and other General Motors Cars, plus Plymouth, Dodge, DeSoto and Chrysler models. Complete, fast-selling, low-priced assortment.

No. H809
Dealer Assmt.
for 90%
of all
**HOT WATER
HEATER
REPAIRS**



PROFITS waiting for you — in
12 million heaters needing repair & overhaul

**ORDER
FROM
YOUR
JOBBER
TODAY!**



Heater Parts in **EVERHOT Handi-Box LINE**

- Heater Parts & Fittings
- Heater Parts in Handy
- Heater & Accessory Switches
- Assortments that contain all essential parts
- Thermostats for Heaters & Year 'round Replacements
- Heater Hose
- Defroster Hose

with **FLASH-TAB IDENTIFICATION**

EVERHOT PRODUCTS CO.

2001-9 W. CARROLL AVE.
CHICAGO 12, ILLINOIS
West Coast Warehouse: 1511 Seventh Street, Los Angeles 14, California

Delco's

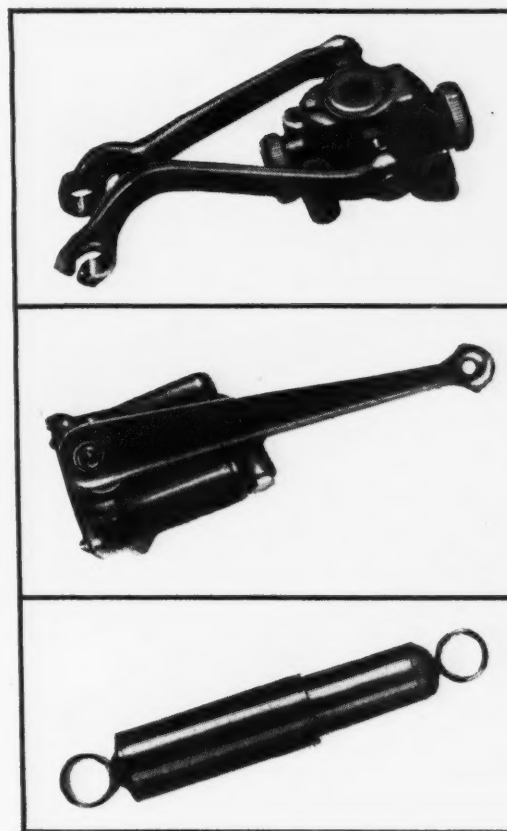
the Choice

Because only Delco
provides All Types
of Shock Absorbers
for All Cars

A look at the field tells you immediately that you can roll up bigger profits with the Delco line. For Delco alone makes available the right type of shock absorber for every make of car. Whether it's a single-acting or double-acting, a knee-action or a direct-acting shock your customer needs, you've got it when you've got the Delco line. The 65,000,000 Delco units on the road today insure you a continuing "live" market for replacement and repair. And, even with all the outstanding advantages that make them the original equipment leader, Delco shock absorbers are sold at a price that is competitive with even the "bargain lines." For greater money-making opportunities, sell Delco leadership . . . one line, one quality, one price.



DELCO SHOCK ABSORBERS
A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS



DELCO

HYDRAULIC SHOCK ABSORBERS

HOOT MON!
They're Money Makers!

McKAY TIRE CHAINS



McKAY
MULTI-GRIP

McKAY
REGULAR

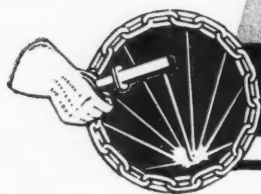
TWO FAST SELLING CHAINS

It pays to handle fast selling, profitable McKay Tire Chains and Tire Chain Accessories. Backed by a quality reputation and extensive promotion, McKay Tire Chains are proven winners.

THIS DISPLAY KIT HELPS YOU SELL!

1. MAMMOTH BANNER
2. WINDOW POSTERS
3. SELLING TIPS
4. QUICK SELECTION, SIZE AND PRICE CARD

REQUEST THESE HELPFUL SALES TOOLS FROM
YOUR McKAY JOBBER.



THE McKAY COMPANY
PITTSBURGH 22, PA.

WELDING ELECTRODES . . . COMMERCIAL CHAINS . . . TIRE CHAINS

462 McKAY BUILDING • PITTSBURGH 22, PA.

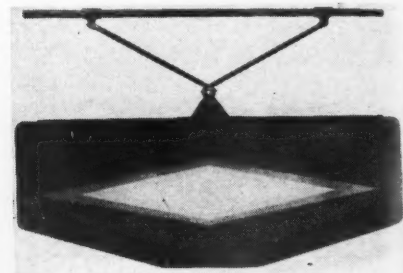
New Products

CONTINUED FROM PAGE 144

For information use coupon on page 46.

73—Newton Visor

P. S. Newton, Oakland, Cal., is marketing the Newton Glarekiller, a plastic plate tinted with three shades of green-blue dye except for a diamond-shaped clear aperture in the center. The three tints are arranged progressively around this



aperture, with the lightest tint nearest the clear space. The device mounts on an adjustable metal frame in place of the regular sun visor, or may be specially mounted in cars which have no sun visors.

74—Master Test Gage

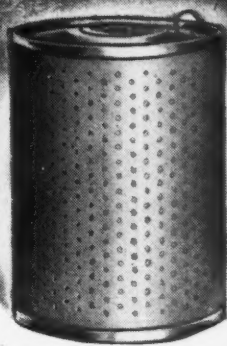
Druge Brothers Manufacturing Co., Oakland, Cal., have announced the Tru-Flate Master Test Gauge, built for testing the accuracy of automatic tire inflators and pencil-type hand gages. The manufacturer states that this brass gage is factory-calibrated to insure accuracy at all pressures from 10 to 160 lbs. Each Tru-Flate Master Test Gauge is nickel plated and comes in its own glove leather case.

75—Ratchet Screw Driver

The Ruger Corporation, of New York City, are manufacturing a newly-developed spiral ratchet screw driver with a return mechanism which employs hardened alloy steel ball bearings, traveling in the spiral grooves of the shaft. The Ruger Spiral Ratchet Screw Driver comes in two types, automatic return and hand return, and three chrome vanadium steel bits are included with each tool. The chuck, however, will accommodate any standard ratchet screw driver bits.

Now...with DeLuxe-Baldwin "Pressure-Wound" Cartridges

GIVE EVERY MAKE OF FILTER THE TIME-PROVED DELUXE OIL CLEANSING EFFECT



There's plus profit for you in DeLuxe-Baldwin. This cartridge brings to EVERY filter the road-tested, award-winning* DeLuxe oil cleansing effect. Unique! It is of cotton thread wound criss-cross on a perforated core... "Pressure-Wound"... SOFT-wound outside to catch big dirt without clogging, DENSE-wound inside to trap fine particles, and cotton throughout to absorb impurities. This makes the DeLuxe cleansing effect available at last to users of all makes of filters—profitable for seller and user alike!

From Surgery to Industry Nothing Else Filters and Absorbs Like Cotton

Cotton has the texture and absorpency which makes it the superior oil filter medium. All it requires is that its density shall be maintained. Both "Pressure-Winding" and the patented DeLuxe spring-and-cone construction achieve that end. This prevents sagging and assures long cartridge life. "Pressure-Winding" and DeLuxe spring-and-cone construction also prevent quick clogging of the cartridge face by dirt and sludge.

DeLuxe—Finest Expression of the Finest Oil Cleansing Principle

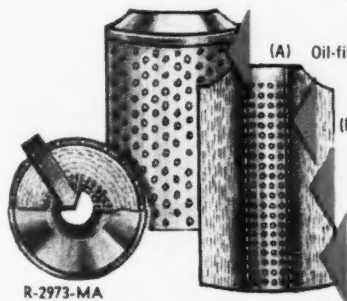
Proper filtering density is maintained by the spring. The cone traps sludge and big dirt BEFORE it even enters the filter. The sump clears the filter of big particles and sludge. Cotton throughout—absorbs asphaltene and impurities... HIGHEST efficiency... for a far LONGER service life!



DELUXE PRODUCTS CORP., 1404 LAKE ST., LA PORTE, INDIANA

DELUXE
Oil Filter
DOES MORE THAN STRAIN OIL... MORE THAN FILTER OIL...
ACTUALLY CLEANSES OIL

"PRESSURE-WINDING" Prevents Sag, Cleans Better, Insures Lasting Efficiency



R-2973-MA

(A) Oil-filtering fibre container.

(B) DENSE-wound inside to trap small particles.

(C) Cotton throughout to absorb impurities.

(D) SOFT-wound outside to catch big dirt without clogging-up with small particles and sludge.

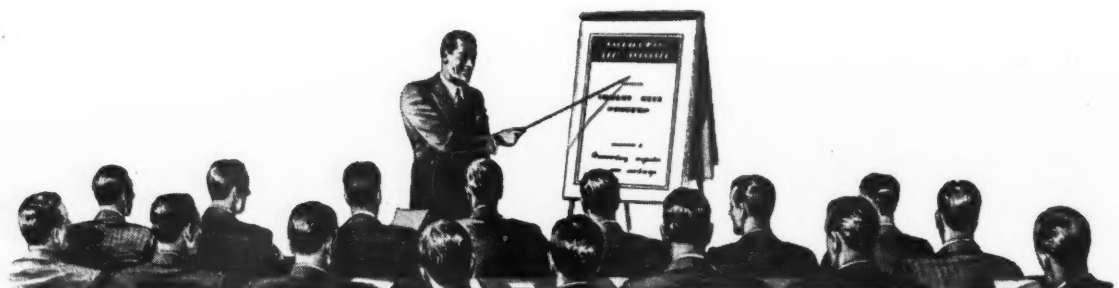
* Of 13 winners in 1947 National Bus Transportation Efficiency Awards, 12 used DeLuxe.

Another FIRST

**Years Ahead of the Industry
In Modern Personnel Training with**

THE CHEVROLET SALES MANAGERS' INSTITUTE

**Designed to strengthen quality sales
management in Chevrolet dealerships**



for CHEVROLET!

AGAIN Chevrolet leads the way! The Chevrolet Sales Managers' Institute represents the most advanced and comprehensive training program for retail sales management personnel in the history of the automobile industry.

More than six years ago, the Chevrolet Motor Division foresaw the problems that would confront all automobile dealers in the highly competitive buyers' market of the later postwar period. So that Chevrolet sales managers might be fully equipped to re-introduce and strengthen the quality selling standards that existed before the war, Chevrolet began an exhaustive study of the most effective methods and techniques for schooling sales personnel to this end. Two years of intensive research produced the Chevrolet Sales Managers' Institute.

This program is another example of the foresight and initiative which characterizes Chevrolet's relationship with its dealers. Progressiveness has made Chevrolet the largest-selling, most wanted car in America. And this same quality of leadership makes the Chevrolet dealership the most advantageous, the most coveted franchise in the automobile industry today.

CHEVROLET MOTOR DIVISION, GENERAL MOTORS CORPORATION, DETROIT 2, MICHIGAN

Here are some of the
unanimously enthusiastic reports
from sales managers who
attended the Institute:

"... really great program, most capably presented."

"... The Institute is another example of Chevrolet's traditional farsightedness."

"... we benefited more from this training than from anything else Chevrolet could possibly have done."

"... not only another FIRST for Chevrolet, but the most revolutionary program I've seen."

"... pleasure to know we are looking ahead. This type of management is appreciated by us dealers."

"... never attended a finer, more practical and more educational program in my 20 years with Chevrolet."

"... my hearty approval of theme
--- 'better to be six months
early, than six months late.'"

"... keep it going for new personnel --- soundest program in my 29 years with Chevrolet."

"... finest and most comprehensive training course of its kind ever conceived."

"... best thought out, best prepared and best presented program I have seen in Chevrolet or other organizations."

"... think it's great. Thanks for making it possible."

Going Forward Together



You and Chevrolet

New Products CONTINUED FROM PAGE 146

For further information use coupon on page 46.

76—Weller Soldering Iron

The Weller Mfg. Co., Easton, Pa., has announced two new soldering gun models. These new models are designed for use on 110 or 220 volts at 50 or 60 cycles. The new models, ES-110 and ES-220, provide single heat at 100 watts with a four inch reach from housing to

tip, and the five second heating, pre-focused spotlight, and Flexitip of the two regular models are also features of these two new models.

77—New Clymer Book

Clymer Motors, of Los Angeles, Cal., has released a new book by

Floyd Clymer, describing a 3000 mile road test made by the author in a 1947 Studebaker Champion. Floyd Clymer, who claims to have no connection with the Studebaker Corporation or any Studebaker dealer, gives an account of the trip, and observations which he made in connection with the car during the test run. Also included in this publication are the results of questionnaires filled out by 3000 Studebaker owners.

78—Speedway Bench Grinder

The Speedway Manufacturing Co., Cicero, Ill., is now featuring their 1/4 h.p. electric bench grinder for shop and garage. This grinder has tool rests with built-in side guides which are designed to simplify grinding of tools. The housing is made of cast aluminum, and the grinding wheels are 6 in. by 3/4 in., with a 1/2 in. hole.

79—Edison Plug Selector

The Automotive Division of Thomas A. Edison, Inc., of West Orange, N. J., announce a spark plug selector, fitted with a dial which the car-owner can turn until he finds the particular plug suitable for his own particular car. With three types of plug recommended for each car, depending on the type of operation, the car-owner can choose the best plug based on his own particular driving habits and the condition of his car. Edison selector-displays, according to the manufacturer, are being supplied to all Edison spark plug outlets.

80—Siloo Parts Cleaner

The Petroleum Solvents Corporation, of New York City, announces that Siloo Parts Cleaner is now available in Utility Quart Cans for the cleaning of small metal parts. The size was brought out especially for the cleaning of small carburetor parts and other small metal parts. Each can contains a dipping basket. The cleaner is a single-phase material designed for removing sludge, grease, carbon, and so forth.

Cash in on COLD WEATHER with

ZECOL

FREEZ PROOF

PREVENTS FREEZING IN GAS LINE
CARBURETOR AND FUEL PUMP
ELIMINATES WATER IN GAS
KEEPS CARBURETOR JETS OPEN
CONTAINS RUST AND CORROSION
INFLAMMABLE—KEEP AWAY FROM FIRE

● EXTRA DRY
● ABSORBS MORE MOISTURE

MAKE THIS TEST
ZECOL FREEZ PROOF HOLDS
GAS AND MOIS-
TURE TOGETHER
IN BURNABLE
FLUID

NOTE SEPARA-
TION FROM
GASOLINE
WHEN OTHER
FUEL LINE ANTI-
FREEZE IS USED

*The Leading
GAS TANK, FUEL LINE,
and CARBURETOR
ANTI-FREEZE*

NATIONALLY ADVERTISED

THE POWER OF
SATURDAY
EVENING POST

THE PUNCH OF
LEADING
NEWSPAPERS

THE CLICK OF
KEY RADIO
STATIONS

**JUST POUR IT INTO
GAS TANK**

ABSORBS MOISTURE

ZECOL, INC., MILWAUKEE, WIS. 9M

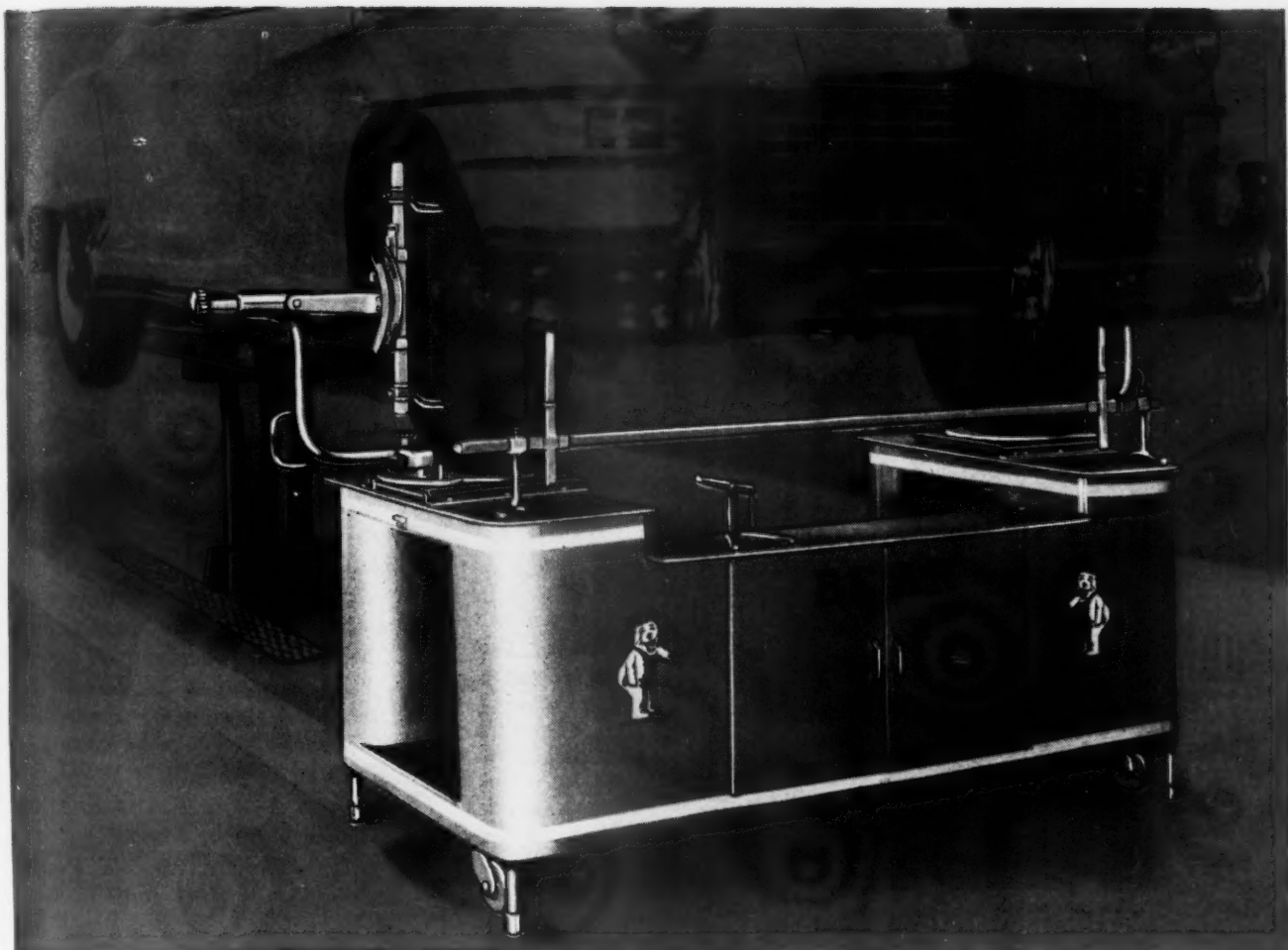
Gentlemen: Please send me latest material describing Zecol Freez Proof, with instructions for ordering:

NAME _____

ADDRESS _____

CITY _____ ZONE _____

STATE _____



make *EXTRA* income without *EXTRA* space!

**With the new LIFT-ALINER
you can make any two-post lift
an ALINEMENT STATION!**

Now you can cash-in on high profit wheel alining without using an extra inch of floor space! The new Bear "1131" Lift-Aliner will service any number of two-post lifts and enable you to do complete, 5-point alinement checking. The Lift-Aliner can be used on any type of floor, indoors or out. It stores out of the way quickly, conveniently and an ample size cabinet space holds all of the necessary tools.

What's more, the Lift-Aliner makes alinement work *easy-to-sell*! It's an easy matter to sell your customer an alinement check when his car is on the lift for other services. Full details on the new "1131" Lift-Aliner are contained in the new "1131" Bulletin just off-the-press! Write for your copy *today*!

BEAR SAFETY SERVICE
WHEEL ALINEMENT... BALANCING...
HEADLIGHT AND BRAKE TESTING

POST

NATIONALLY ADVERTISED IN...



**This New FREE
Bulletin Tells
You How...**

to get *EXTRA* income out of any two-post lift. It shows all of the outstanding features of the Lift-Aliner that opened an entirely new field in wheel alinement profits.

SEND FOR YOUR FREE COPY TODAY!

BEAR MFG. CO., Dept. M-1
Rock Island, Illinois

Without cost or obligation, please send me a free copy of the Bear "1131" Lift-Aliner Bulletin.

Name

Company

Address

City Zone State

R-2964

MOTOR AGE, SEPTEMBER, 1948

151

Cleaning the valve ports and intake manifold is most helpful when trying for more speed and R.P.M.

Check the carburetor float level and pump stroke, also adjust the throttle linkage so that the throttle valve opens and closes the full distance.

No change in valve clearance or valve timing would be necessary if

head was planed. The only change would be in your ignition timing. It would have to be retarded slightly.

How To Get More Power From a Mercury Engine

I read with interest your advice on increasing the performance of

a 1941 Mercury engine on page 55 of Motor Age for February, 1948.

I note you state .030 in. can be cut from cylinder walls after the sleeves have been removed. How thick are the sleeve walls? In a 1947 238 cubic inch V-8, which I believe has no sleeves, how many thousandths can be safely removed from walls? Will the overall over-size bore be the same in either the 1941 or 1947 engine or will the 1941 engine be larger due to removal of sleeve plus .060 in. over-size boring of sleeveless cylinder barrels.

Removing .060 in. from head would bring about what compression ratio approximately?

Are Boyle flat seat valves suitable to increase valve opening or is it better to use bevel seats?

With a stepped up motor and 7:00 x 15 tires, which rear axle ratio would give best speed and acceleration performance? There are 3.54 to 1, 3.78 to 1, 4.11 to 1 and 4.44 to 1 as far as I know.

E. P. Gallaher, 423 N. E. Fourth St., Faribault, Minnesota.

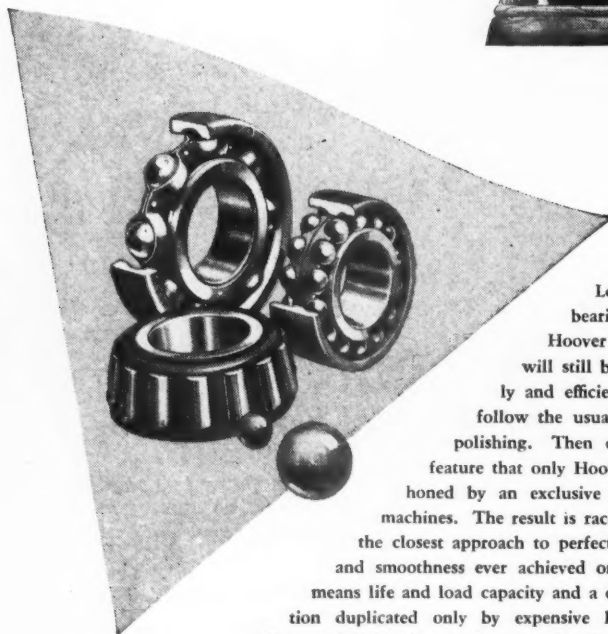
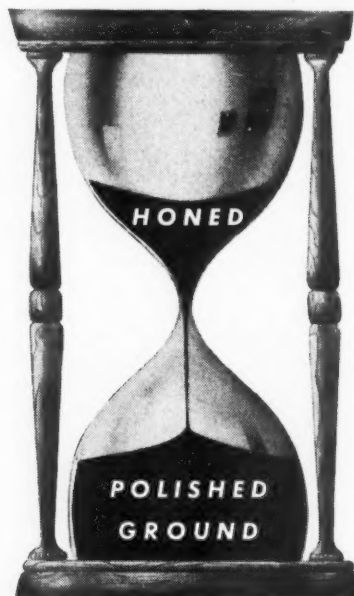
ON engines that are not equipped with cylinder sleeves it is possible to bore them .080 in., which would amount to about the same dimensions as the block with sleeves removed.

CONTINUED ON PAGE 154

HONED RACEWAYS

give HOOVER ball bearings

30% longer life



Long after the average ball bearing has been replaced, Hoover Honed Raceway Bearings will still be operating quietly, smoothly and efficiently. Hoover Ball Bearings follow the usual processes of grinding and polishing. Then comes a third step, a plus feature that only Hoover offers. The bearings are honed by an exclusive method on special Hoover machines. The result is raceway curvatures representing the closest approach to perfection in uniformity, precision and smoothness ever achieved on a commercial basis. This means life and load capacity and a degree of quietness of operation duplicated only by expensive laboratory samples. Specify Hoover Ball Bearings and secure the plus values of honed raceways.

THE ARISTOCRAT
OF BEARINGS

Hoover

America's only Ball Bearing
with HONED RACEWAYS

HOOVER BALL AND BEARING CO. ANN ARBOR, MICH.



"Your Honor, my client would like a little more time to memorize his story."

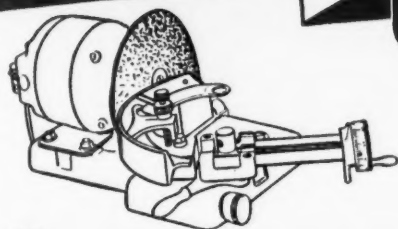
MOTOR AGE, SEPTEMBER, 1948



Barrett Says:

**THERE'S ONLY ONE RIGHT WAY
TO DO A TROUBLE-FREE BRAKE JOB!**

**ORDINARY
GUESS and HOPE
METHOD**

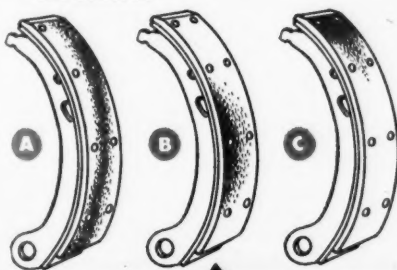


1 New or pre-ground shoes are ground to a given arc without respect to anchor position, or how the shoe will rest when mounted on backing plate.



2 The surface thus ground positively will not align itself when installed on backing plate because:

- Twisted shoes cause cross contact.
- Bent or warped backing plate causes edge contact.
- "Guess" adjustment causes heel or toe contact.



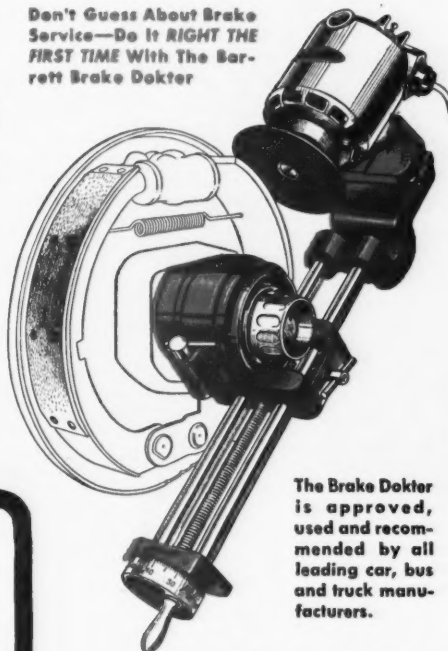
THESE CONDITIONS CAUSE:

- Squeals, groans, chatter and other brake noises
 - Side pull, diving, grabbing
 - Hard pedal, spongy pedal, no pedal
 - Frequent adjustments, wasted time
- WITNESS THIS CONDITION EVEN ON NEW CARS!
THE BRAKE DOKTER AUTOMATICALLY
CURES ALL THESE TROUBLES

**THE BRAKE DOKTER
HAS BEEN PROVED THE
ONLY METHOD TO INSURE
PERFECT BRAKES**

- Guarantees .005" to .010" clearances required for 100% lining-to-drum contact
- Corrects troubles caused by warped, bent or incorrectly adjusted shoes
- Eliminates wear-in period — assures longer lining life
- No extra gadgets, gauges or dummy drums necessary
- Size of brake makes no difference — handles 9" to 24" shoe assemblies
- One mechanic can do a precision job without special training

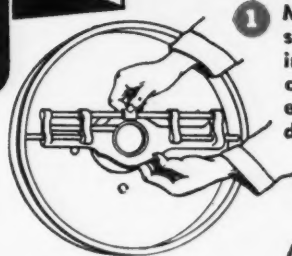
Don't Guess About Brake Service—Do It **RIGHT THE FIRST TIME** With The Barrett Brake Dokter



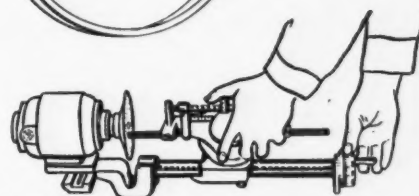
The Brake Dokter is approved, used and recommended by all leading car, bus and truck manufacturers.

*Ask Your Jobber
To Demonstrate
OR WRITE DIRECT*

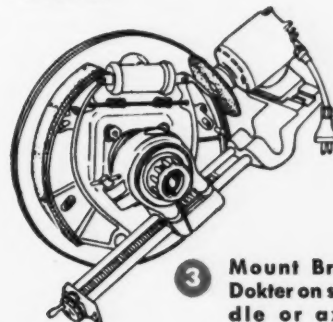
**BARRETT
PRECISION
METHOD**



1 Mount relined shoes on backing plate and check diameter of brake drum.



2 Use drum mike to set grinder to drum size with proper drum-to-shoe clearance allowed.



3 Mount Brake Dokter on spindle or axle. Centralize and adjust shoe to this diameter. Circle grinding completes lining operation.



4 Install drum. No further adjustment needed. Lining-to-drum contact is 100% perfect and stays that way.

BARRETT EQUIPMENT CO.
The World's Finest Brake Service Equipment
TWENTY-FIRST AND CASS • ST. LOUIS 6, MO.



Some shops are boring these engines after the sleeves have been removed but it is not advisable, due to the wall thickness. Planing .060 in. off cylinder head would increase your compression approximately 10 lbs., making the compression ratio 6.8 to 1, instead of 6.1 to 1. I believe the 3.78 to 1 gear ratio would give the best all-around perform-

ance. Also, I would recommend beveling the valve seats.

Replacing Engine Didn't Help Miss

I would appreciate any information you can give me regarding trouble I am having with a '38 Plymouth. About four years ago

a factory rebuilt motor was installed, the motor had an occasional miss on idle and was very rough at about 30 mph. I did not work on this motor, but was told that everything was checked and proved O.K., also a carbon and valve job, which did not improve it. Rather than pull the motor down at that time it was decided to drive it until it needed rings. About a month ago the car came in with main bearing noise, after pulling the pan and finding the shaft rough, we installed a new Dodge motor. This motor ran fine except for the identical cutting out experienced on the other (occasional miss on idle and rough about 30 mph). At all other speeds its performance is excellent. In trying to locate the trouble we have already tried new and rebuilt carburetors, new manifold, coil, plugs, fuel pump, flex line, and rebuilt distributor. Any help you can give us will be greatly appreciated. J. M. Zimmerman, Route #4, Lancaster, Pennsylvania.

ON your 1938 Plymouth that has an occasional miss at idle and 30 mph. I am inclined to believe that it is in the distributor and that the advanced weights have become stuck so that they do not advance and retard the spark with various engine speeds. It might possibly be due to weak advance springs, in any case I would have the distributor checked on a test stand for cam angle, centrifugal and vacuum advance. Also set the ignition timing according to factory specifications.

GO...with SUPER GO

TOPPER NO. 4

SUPERGO Distributor Caps and Rotors have greater dielectric efficiency by reason of a scientific compounding of bakelite powders and Wells "basic-ly better" molding. The color of these parts is a rich maroon of real distinction.

GO PLACES IN MOTOR TUNE-UP

It's the outstanding "topper" features that make every part in the SUPERGO line your best bet for building ignition business. SUPERGO is the exclusive development of the Wells organization, builders of replacement ignition parts for 45 years.

Another line offers such exceptional opportunity for solidly increasing your motor Tune-Up sales. Ask your jobber to serve you with SUPERGO. Wells Mfg. Corporation, Fond du Lac, Wis.

QUALITY TELLS
DEMAND WELLS

WELLS
Automotive Ignition



Sheldon H. Hussar, (right), Service Manager of Ralph Horgan, Inc., New York City Ford Dealers, accepts a new Ford rewarding his 25 years as a Ford service man, from Major Ralph T. Horgan, (left) president.

**"My Simoniz station
brings me more new
customers . . . more
repeat business all
year!"**



**MORE MOTORISTS USE SIMONIZ
THAN ANY SIMILAR PRODUCT!**

"As soon as I started featuring Simoniz more motorists started bringing me their business—not only for Simoniz but all my services and accessory sales. A lot of them tell me they've had inferior, higher priced substitutes for Simoniz palmed off on them before. But here they know I give them genuine Simoniz and Simoniz Kleener when they ask for it. That's one good reason why they keep coming back."

Ernest S. Dennison

YOUNGSTOWN GARAGE, INC.,
23 W. Boardman Street, Youngstown, Ohio

Now, more than ever, motorists are insisting on genuine SIMONIZ and SIMONIZ KLEENER . . . are looking for stations that feature these famous products. They are becoming increasingly aware of SIMONIZ superiority through national advertising—a greater continuous campaign than all others combined! That's why the sign of a SIMONIZ station will mean dollar signs to you! Cash in on the overwhelming acceptance for SIMONIZ—now!

LET US ALSO SHOW YOU HOW TO SET UP YOUR SIMONIZ SERVICE!
Increase your profits by offering a complete SIMONIZ service! Write now for the FREE operation and promotion manual that illustrates the step-by-step procedure.
THE SIMONIZ COMPANY, CHICAGO 16, ILL.



Motorists Wise

SIMONIZ
TRADE MARK REG.

HALLOWELL

READY-MADE WORK BENCHES OF STEEL



Fig. 732
"Hallowell" ready-made Work-Bench of Steel—drawer is extra.



Fig. 926
"Hallowell" Work-Bench of Steel—with laminated all-wood tops; steel shelf below. A beautiful job, not expensive.

ALL-WELDED CONSTRUCTION

The sturdy, ready-made "Hallowell" Work-Bench of Steel is the ideal modern addition to your shop. "Hallowell" Benches may have wear-resistant steel tops; are also available with smooth, high-grade laminated wood tops, or steel tops covered with "Tempered Presdwood." Made in 4 standard heights, 3 widths and 7 lengths, the "Hallowell" can be arranged as individual units, or can easily be re-arranged to form a continuous work-bench — not practicable with nailed-together wooden benches. The "Hallowell" does *not* require costly bolting to the floor.

Write us for the name and address of your nearest "Hallowell" Industrial Distributor and your copy of the "Hallowell" Catalog.

OVER 45 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA. BOX 561

CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

Clearing House

CONTINUED FROM PAGE 154

Complaint of Chronic Overheating on Plymouth

I have a 1937 Plymouth which runs over-heated during hot weather. On ordinary driving it does not boil but runs near boiling point and boils when motor is shut off.

A rebuilt 1936 Plymouth motor was installed a year ago and it has been trouble ever since. The block was cleaned and checked before I assembled it. Since then I have checked cylinder head and gasket. I put on new water pump, have had two guaranteed radiators on, new coil, points, and carburetor, checked muffler for back pressure, have flushed the block with different solution but got very little dirt. Installed a new tube in the block behind the water pump, took out the thermostat, and put on all new hoses, have tightened the fan belt and checked the timing several times and it seems in perfect time, I also checked heat gage. The car runs nice, and doesn't use any oil and starts very good.

I also notice that when I come to a down grade and let it coast in high gear with the motor on that it will drop from 190 degrees down to about 150 degrees in a short time.

I would appreciate any information you can give me on this trouble. Wilbur Goebel, Goebel Garage, Granton, Wisconsin.

ON your 1936 Plymouth which is running hot, I still think it's due to a faulty cooling system. First of all, I would check to see that the thermostat is working properly and if the thermostat has been removed, I would suggest blocking off the water pump bypass.

I would also suggest that you disconnect the radiator hoses and fill the block with a 20 per cent solution of hydrochloric acid and let it remain in the block overnight. It is very important to flush the block out thoroughly to remove all traces of rust and also important to add a good grade of rust inhibitor.

uth

which
wea-
t does
point
ut off.
motor
it has
block
fore I
have
asket.
e had
, new
ecked
have
ferent
dirt.
block
k out
ll new
n belt
everal
time,
he car
ny oil

come
ast in
n that
e down
short

forma-
n this
Goebel

which
think
system.
to see
working
at has
uggest
mp by-

at you
es and
er cent
id and
k over-
ant to
ghly to
nd also
rade of

ER, 1948

Lincoln Lubricating Equipment

Builds Profitable Business



Make Money • Save Time • Eliminate Waste

DISPENSE MOTOR OIL WITH THE LINCOLN LUBREEL

—the modern way to dispense motor oil direct from original refinery containers to crankcase. Fast, clean—no contamination . . . no waste . . . no mess. Air-motor operated pumps and containers are placed in an out-of-sight location and oil is pumped direct to the Lubreel Cabinet. Hose assemblies are mounted on individual air-operated, automatic retracting reels and each control valve has an easy-to-read totalizing meter.

Bulletin No. 509 gives complete information. Write for a copy or ask your Lincoln Wholesaler.

Trade Mark LINCOLN
and Trade Name LUBREEL
Reg. U. S. Pat. Off.



Get the "C to C" Story

It gives complete information on how to dispense oil direct from container to crankcase. Request your copy today.

A48-23



Lincoln is the originator of the Kleenseal Surface Check Grease Fitting—the new, modern fitting with the ball in the top.

LINCOLN

LINCOLN ENGINEERING COMPANY

Leaders in Lubricating Equipment for a Quarter Century
3701 NATURAL BRIDGE AVE., ST. LOUIS 20, MO.

Notice to Insurance Company Held Essential

A repairman may lose the protection of his automobile liability policy if he fails to give notice of an accident to the insurance company within the time stated in the policy or if he gives notice to a wrong person.

A California truck owner was involved in an accident and was sued by the other driver, who obtained a

judgment of approximately \$4,000 against him. The truck owner was insured for automobile liability and the other driver then sued the insurance company to collect the amount of the judgment he had obtained against the truck owner.

The insurance company contended that it was not liable because the truck owner did not give written notice of the accident within five days as provided in the policy.

The evidence showed that on the day of the accident the truck owner had mailed a post card reporting the accident to the insurance broker from whom he obtained the policy. The broker neglected to notify the insurance company's local agency. Forty days later the truck owner returned from an out of town trip and went to see the broker about the outcome of the accident. At that time the broker notified the company's local agency.

The California court held that the notice mailed to the broker on the day of the accident was not binding on the insurance company, and said:

"Although the insured mailed notice to the insurance broker on the day of the accident, that was not effective as a notice to the insurance company. The insurance broker was the agent of the insured and not of the insurance company."

The effect of that ruling was that legal notice was not given to the insurance company until forty days after the accident when the broker first wrote to the company's agency.

Although the policy provided that notice must be given within five days, a California statute provided that notice may be given at any time within twenty days after the accident. The company pointed out that the truck owner was not protected by this statute because notice from him was not received for forty days.

Discussing the effect of the twenty days provided by the statute, the California court said:

"The insurance company contends that the twenty day provision in the statute should be substituted for the five day provision of the policy and that the policy should be read as if a provision for notice within twenty days were expressly embodied in the policy.

"The statute does not state that the notice must be within twenty days and does not state that a notice given after twenty days shall be void. It states that notice may be given at any time within twenty days after the event. In other words, a notice within twenty days is permissible even though the

CONTINUED ON PAGE 160

• • • • •

• *Whether your "Air Power" requirements are large or small* •

• **There's a PAR unit to handle practically every requirement in the Automotive Service Field** •

• **PAR** sizes range from ...

• **1/2 HORSEPOWER TO 5 HORSEPOWER** •

• **VERTICAL OR HORIZONTAL MODELS** •

Ask your PAR Jobber for details or write for PAR catalog No. 47.

Every Par air compressor carries the P A E A label—your assurance that Par meets or exceeds the requirements as issued by the National Bureau of Standards.

By Comparison — You'll Buy PAR

LYNCH CORPORATION
Par Compressor Division TOLEDO 1, OHIO U.S.A.

KELSEY-HAYES WHEELS

—designed to give new
low pressure tires...

MAXIMUM SAFETY

MAXIMUM CUSHIONED COMFORT

MAXIMUM MILEAGE

**CHANGE-OVER
WHEELS ARE
AVAILABLE THROUGH
DISTRIBUTORS FROM
COAST TO COAST**

ALABAMA
Cruse-Crawford Wheel & Rim..... Birmingham 3
CALIFORNIA
Motor Rim & Wheel Service..... Los Angeles 15
Motor Rim & Wheel Service..... San Francisco 9
COLORADO
Quinn & McGill Motor Supply..... Denver 1
CONNECTICUT
Connecticut Wheel & Rim..... Hartford
Connecticut Wheel & Rim..... New Haven 11
FLORIDA
Southeast Wheel & Rim Co..... Jacksonville 3
GEORGIA
Harris Automotive Service..... Atlanta 3

Stone Wheel Incorporated..... Chicago 16
Peoria Wheel & Rim Company..... Peoria 3
Illinois Wheel & Brake Company..... Springfield
INDIANA
Indiana Wheel & Rim Company..... Indianapolis 4
Wire & Disc Wheel Sales..... South Bend 18
IOWA
Stone Wheel Incorporated..... Davenport
Des Moines Wheel & Rim Co..... Des Moines 12
KANSAS
Barbain-Young & Company..... Wichita 2
KENTUCKY
Auto Wheel & Rim Service..... Louisville 3
LOUISIANA
Southern Wheel & Rim Co..... New Orleans 13

MARYLAND
R. W. Morris & Sons Inc..... Baltimore 3
MASSACHUSETTS
New England Wheel & Rim..... Boston 15
MICHIGAN
Rim & Wheel Service..... Detroit 2
Rim & Wheel Service..... Grand Rapids 2
MINNESOTA
Pioneer Rim & Wheel Company..... Minneapolis 4
MISSOURI
Barbain-Young & Company..... Kansas City 8
Barbain-Young & Company..... Springfield
Barbain-Young & Company..... St. Louis 8
NEW MEXICO
Wheels & Brakes, Inc..... Albuquerque
NEBRASKA
Morgan Wheel & Equipment..... Omaha 2
NEW JERSEY
Wheels Incorporated..... Newark 4
NEW YORK
Wheels, Incorporated..... Albany 1
Frey, The Wheelman, Inc..... Buffalo 3
Wheels, Incorporated..... New York 23
Frey, The Wheelman, Inc..... Rochester 7
Colburn Wheel & Rim Co..... Syracuse 4
NORTH CAROLINA
Carolina Rim & Wheel Co..... Charlotte 1
Carolina Rim & Wheel Co..... Raleigh
United Automotive Service, Inc..... Winston-Salem
OHIO
Motor Rim Manufacturers..... Akron
Rim & Wheel Service..... Cincinnati 2
Motor Rim Manufacturers..... Cleveland 1
Hayes Wheel & Spring Service..... Columbus 15
Rim & Wheel Service..... Dayton 3
Wheel & Rim Sales Company..... Toledo 4
Southwest Wheel Inc..... Oklahoma City 1

OREGON
Auto Wheel Service..... Portland 9
PENNSYLVANIA
Standard Wheel & Rim Co..... Harrisburg
Kay Wheel Sales Company..... Philadelphia 4
Thomas Wheel & Rim Company..... Philadelphia 30
Wheel & Rim Sales Company..... Pittsburgh 13
TENNESSEE
Harris Automotive Service..... Knoxville 17
Beller Wheel, Brake & Supply..... Memphis 3
Beller Wheel, Brake & Supply..... Nashville
TEXAS
Southwest Wheel Inc..... Dallas 2
Southwest Wheel Inc..... Houston 2
Southwest Wheel Inc..... San Antonio 6
UTAH
Henderson Rim & Wheel Serv..... Salt Lake City 1
VIRGINIA
Dixie Wheel Company..... Richmond 20
WASHINGTON
Motor Wheel & Parts Co..... Seattle 22
Bearing & Rim Supply..... Spokane 8
WISCONSIN
Stone Manufacturing Company..... Milwaukee 3
CANADA
Alberta Wheel Distributors..... Edmonton, Alberta
General Automobile Equip..... Montreal, Quebec
Wheel & Rim Co. of Canada..... Toronto 5, Ontario
Wheels & Equipment Limited..... Vancouver, B. C.
Automobile Supply Company..... Winnipeg, Manitoba



... ASSURES PROVEN PRODUCTS AT ...
KELSEY-HAYES WHEEL COMPANY
DETROIT 32, MICHIGAN



Wheels—Hub and Drum Assemblies—Brakes—"Vaddraulic" Brake Power Units—for Passenger Cars, Trucks,
Buses—made by Kelsey-Hayes' 4 Michigan Plants and Windsor-Canada Plant • "Magdraulic" Electric Brakes—
"Lathan" Vacuum Power Brake Equipment for Tractor-Trailers—made by Kelsey-Hayes' South San Francisco-Lathan Plant.
Wheels—Hubs—Axles—Parts for Farm Implements—made by Kelsey-Hayes' French & Hecht Plant at Davenport, Iowa.

Notice to Insurance Company Held Essential

CONTINUED FROM PAGE 158

policy provides that notice should be given in a lesser period of time.

"It is proper to read into the policy the provision of the law that notice of an accident may be given at any time within twenty days after the accident, but it is not proper that the requirement for notice in the policy shall be construed to

mean not exceeding twenty days. The statute does not state that a notice given after twenty days shall be invalid."

The court further said that the insurance company had not been hurt by the fact that there was a forty days delay in the receiving of legal notice and entered judgment against the company. (*Abrams vs. American Fidelity & Casualty Company*, 186 *Pacific Reporter*, 2nd series, 999.)

Station Wagon Popularity Continues Steady Growth

Figures compiled by AMA indicate the great growth of popularity of the station wagon since 1936. In that year production totaled 6347 units, or .17 per cent of total passenger car output. Since 1939 percentage of station wagons to total car production has increased steadily, going from .59 per cent in 1939 to .69 per cent in 1940; .85 per cent in 1941; 1.38 per cent in 1946, and to 2.23 per cent last year. Figures for the first quarter of 1948 indicate that the trend is continuing upward with production of 27,428 station wagons representing 2.95 per cent of passenger car production. More station wagons were built in the first quarter of this year than in any other full year, except 1941 when 32,216 were built.

**2½ MILLION CARS
MANUFACTURED IN 1947**



Equipped with this
Johns-Manville
STM
Clutch Facing

**STOCK THE
FACING
THAT'S
STANDARD**

Distinctly different from any other Clutch Facing...

Standard on the major 1947-48 car models...

STM facings are resin-bonded, hot pressed, impregnated with brass... have higher friction stability, greater strength... are made of J-M high-performance brake-block materials.

Johns-Manville
Asbestos
BRAKE MATERIALS

• BRAKE LININGS
• BRAKE BLOCKS
• CLUTCH FACINGS



NADA Equipment Show Selling Space Rapidly

More than 40 per cent of the available exhibit space at the NADA equipment exhibition to be held in connection with the association's annual convention in San Francisco next Jan. 24-27 had been sold by the first of August. According to Ray Chamberlain, manager of the convention, much of the opposition from some equipment manufacturers that developed when the association held its first exhibit last January has disappeared. Exhibits of tools, machinery, equipment, systems, etc., that dealers use in their business will be housed in Polk and Larkin Halls of the Civic Auditorium, with convention sessions held in the main auditorium. Spaces for exhibitors have been increased to 160 for the upcoming show, 40 more than were available in the 1948 display.

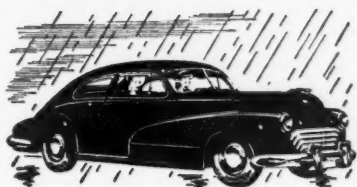
Program procedure has been changed for the convention by eliminating all morning business sessions, making that time available for special clinics on such topics as taxes, sales management, employe relations, consumer relations, parts merchandising, and others.



Ventshades

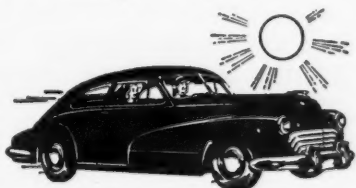
PLEASE YOUR CUSTOMERS AND BOOST YOUR PROFITS

A Modern Comfort Feature for Modern Cars



VENTILATION IN THE RAIN

In the heaviest downpour, windows can be partially lowered to allow a flow of air through the car.



SHADE FROM THE SUN

Ventshades reduce sun-glare and eyestrain; keep parked car cooler because windows can be left down.

Extra comfort for the motorist . . . added beauty for the car . . . more profits for you. That's what Ventshades offer — and that's why Ventshades are one of the fastest-selling items in the field today. So great is the customer appeal of Ventshades that you can sell them on almost every car you deliver — *without any "loading" tactics*. Many leading dealers, offering Ventshades as optional equipment on new cars, are selling as much as \$2000 worth each month. Ventshades will boost *your* profits, too. Better mail the coupon today.

- HEAVY CHROME PLATED BRASS
- RUST-PROOF — RATTLE-PROOF
- QUICKLY AND EASILY INSTALLED

Sold Through New-Car Dealers Only

Manufactured under Prichard patent by
AUTO VENTSHADE COMPANY
ATLANTA • GEORGIA

MAIL TODAY FOR FULL INFORMATION

AUTO VENTSHADE COMPANY
Box 1402, Atlanta 1, Ga.

I am a _____ dealer. Please
(Make of car)
send me complete Ventshade information.

Name _____

Address _____

City _____ State _____

Must Care for Own Safety

While a repairman is legally and financially responsible for injury suffered by customers and others as a result of defects in his place of business or carelessness on the part of his employees, the law insists that the injured person must have exercised reasonable care for his safety.

In a Kentucky business building the elevator was old and lacked

modern safety devices, but was approved by the city elevator inspector. It was a hand-controlled, electric elevator which passengers could operate themselves.

A man on the third floor of the building approached the elevator, opened the door and turned momentarily to speak to someone some distance away. Without looking back to the elevator, he stepped through the open door, fell down the shaft and was killed. Actually, the eleva-

tor was at the fourth floor at the time.

The dead man's executor sued the business house which owned the building to recover for the death.

The Kentucky court felt that the alleged defects of the elevator were not a factor in the case, and, ruling that the accident was the result of the deceased's negligence, said:

"One must exercise ordinary care for his own safety and may not walk blindly into dangers which are obvious to him or that could be anticipated by a person of ordinary prudence.

"In a recent case we held that a lady, who went into a drug store to make a purchase at a soda fountain and sat down on the stem of a stool from which the seat had been removed, was guilty of contributory negligence as a matter of law, since she gave only a casual glance at the stool before she sat down.

"In another case this court held that a business visitor, who fell from a platform of the defendant's factory, was not entitled to financial redress because he knew the condition of the platform from having used it in entering the factory and failed to follow the instructions of the defendant's employee as to the manner of getting off the platform."

In short, a repairman is not required to pay for a customer's carelessness resulting in injury. (*Taus-tine vs. B & R Novelty Company*, 204 *Southwestern Reporter*, 2nd series, 938.)

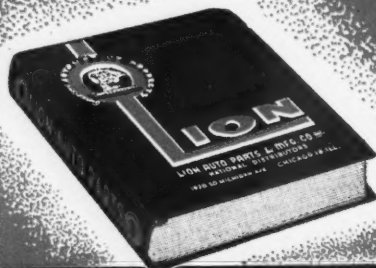
The Most Complete Coverage in the Automotive Field...



- QUALITY PRODUCTS
- UNCONDITIONALLY GUARANTEED
- UNIFORMLY BOXED



LINE UP
WITH LION



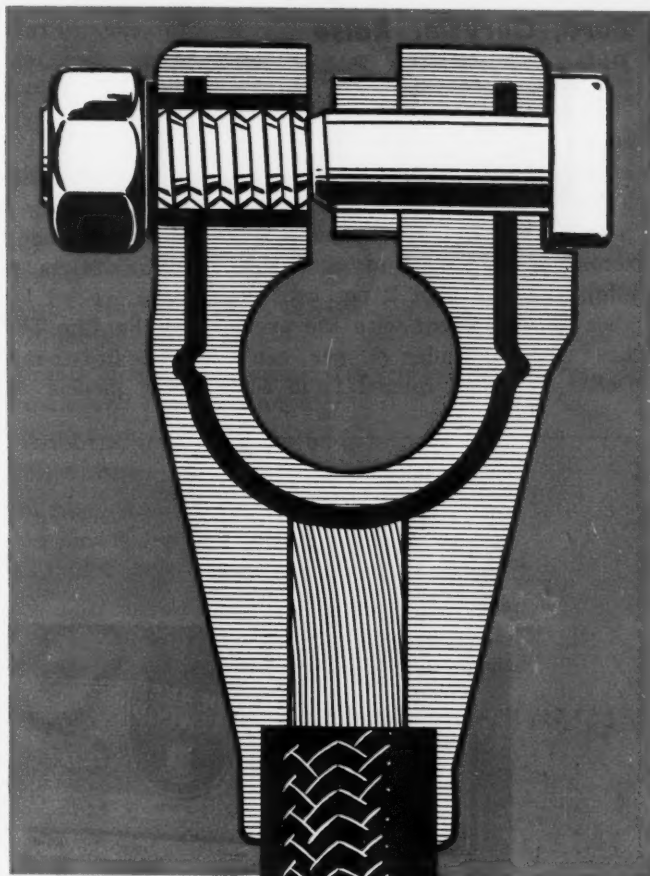
LION AUTO PARTS AND MFG. CO.
1920 SOUTH MICHIGAN AVE. CHICAGO 16, ILLINOIS



"What did Dick Tracy do yesterday?"

Only PACKARD BATTERY CABLES

have the
new **LEADALLOY**
TERMINAL



BUILT-IN FEATURES OF LEADALLOY TERMINAL—Note the U-shaped insert of heavy steel to prevent distortion, the hard-metal shield surrounding the threads, and the compression sleeve protecting the bolt. The cable core and insulation are sealed right into the terminal.

Packard's Leadalloy terminal, long known for its many superiorities, now is better than ever. Its new built-in features assure easy servicing . . . efficient performance . . . quick sales.

Check these outstanding features of the Lead-alloy terminal: The alloy is non-corrosive. Its new steel insert prevents stretching. A thread-shield keeps the bolt from jamming. The compression sleeve prevents distortion and saves the bolt from corrosion. And the base of the terminal grips the

cable insulation, sealing off the core from acid fumes.

Packard battery cables, equipped with the Lead-alloy terminal, are full No. 1 gauge, insuring maximum starting capacity. And they have the famous Korelug originated by Packard, and formed as an integral part of the copper core, for easy attachment to any starter post.

At no extra cost these outstanding cables assure every replacement customer long, trouble-free service and superior performance.



Packard

REG. U.S. PAT. OFF.
TRADE MARK

Packard Electric Division, General Motors Corporation
Warren, Ohio



**FOREMOST BUILDER
OF AUTOMOTIVE AND
AVIATION WIRING**



Ford, Chrysler Raise Prices Twice in 2 Months

Chrysler Corporation is the second of the Big Three to put in effect two price increases within a period of two months. The company in mid-August announced a second price increase ranging from slightly more than 2 per cent to about 5½ per cent with the average slightly under 5 per cent. Dollar increases ranged from \$58

to \$98. Previously, prices had been raised about 6 per cent in June. The increase was expected following Chrysler's six month's financial statement which showed that profits had dropped under the corresponding level of last year for the same period both dollar-wise and as percentage of total sales. Ford is the other member of the Big Three to raise prices twice in two months' period. When new models were announced in

mid-June prices were increased about 9 per cent, and a further increase of 5 per cent was put into effect early in August. It is believed that General Motors may hold the line on present prices, which were increased about 8 per cent in late July until new models appear late this year, although a raise of two, or possibly three cents an hour, is scheduled for GM workers this month under the sliding scale contract with the union and may upset that belief. However, Nash undoubtedly will increase its prices when the new model is announced in October and other independents are likely to increase prices regardless of whether or not new models are produced.



- ✓ Holds 48 pkgs. of six fastest-selling sizes.
- ✓ Colorful steel cabinet.
- ✓ Samples of six sizes on front for customer selection.
- ✓ Displays actual Dor-Tite box.
- ✓ Suggests applications.
- ✓ Handy size and price chart in rear for easy reference and stock-keeping.

the NEW DOR-TITE MERCHANDISER and ASSORTMENT

You wanted a larger Dor-Tite assortment complete with counter merchandiser . . . and it's ready now! Eye-catching and attractive it will help you sell more Dor-Tite and give your customers better service. Be the first to cash in on this special merchandising offer. Call or ask your jobber about the New Dor-Tite Merchandiser and Assortment No. 1248.

DURKEE-ATWOOD CO.
Minneapolis 13, Minnesota

**DURKEE
ATWOOD**

DOR-TITE

STICKS QUICK—STAYS STUCK

British Engineers Work To Produce Gas Turbines

In 1955 you may be rolling down the road in a car powered by turbine spinning at 40,000 rpm., if all goes according to the plans of three young British engineers. Richard Barr, Geoffrey White, and Harry Leach, former members of the British Government's Power Jets Company, have designed the prototype of the Centrax gas turbine unit for road vehicles.

The Centrax unit is 17 inches in overall diameter, has an overall length of five feet, and weighs 250 lbs. It has a two-stage six-inch diameter turbine rotor on the main shaft, and there is a separate single stage power turbine. An axial flow compressor is used with a final centrifugal stage. Power output of the Centrax is 160 brake horsepower. The engine has a very clean appearance, and is said to be very simple to maintain, as there are few external working parts. A single spark plug fires the fuel-air mixture which continues to burn as long as the engine is running. Exhaust fumes will be expelled through twin exhaust pipes, pressure from which will be no greater than that of present reciprocating engines.

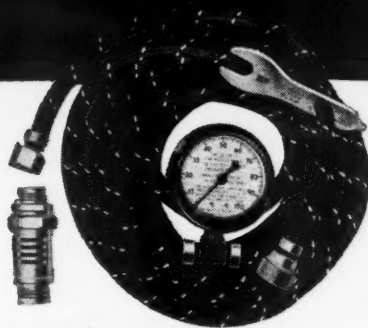
The Rover Company, British

CONTINUED ON PAGE 166

*Some amazing
facts about
patented*

ENGINAIR TIRE PUMPS

that you can easily prove!



ENGINAIR—complete
with air gauge, 16 foot hose,
1 pumping element.

Retail \$4.75

ENGINAIR—complete
with 12 foot hose, 1 pump-
ing element, without air
gauge. Retail \$2.85

**GUARANTEED
2 FULL YEARS**

MORE ENGINAIR FACTS!

- ENGINAIR is used by armies of 6 nations . . . well over a million in use in U.S.A.
- ENGINAIR is guaranteed to pump only cool, clean air.
- Simple to install in 1 minute to any gasoline powered vehicle of two or more cylinders.
- ENGINAIR needs no service—not even oiling, and is **GUARANTEED TWO YEARS.**
- ENGINAIR pleases everyone, gives no trouble, and stays sold.

WE MAKE NO FALSE CLAIMS. YOU CAN TEST ANY PUMP AGAINST ENGINAIR!

It is only necessary to stop flow of air with thumb and the gauge will show maximum pressure. You can test several different makes in a few minutes. DEALERS! If your jobber doesn't stock ENGINAIR, order direct giving jobber's name. Money back guarantee if not satisfied.

EXPORT
**EXPORT DEPARTMENTS OF MOTOR
VEHICLE MANUFACTURERS**
Unlike the U. S. A., foreign countries do
not have free tire air service. A number
of vehicle manufacturers are supplying
ENGINAIR, especially for their export
vehicles. They consider it a real necessity
abroad. Write for full information.

Yes! **ALL SPARK PLUG PUMPS WORK ON
THE SAME PRINCIPLE, YET NONE COMPARE
WITH PATENTED ENGINAIR FOR THESE
MOST IMPORTANT ADVANTAGES:**

- 1 ENGINAIR pumps 25 to 60 lbs. higher pressure than any other such pump by actual, impartial tests.
- 2 ENGINAIR pumps up to 105 lbs. into tire—up to 90 lbs. quickly.
- 3 All other such pumps are limited to very low pressure tires and are slow pumping.
- 4 ENGINAIR inflates *properly* both high and low pressure tires.
- 5 All other such pumps are too large to fit in limited space provided on many vehicles; and use impractical thread adapters.
- 6 Each different size ENGINAIR pumping element is a specially designed, high pressure unit, small enough to fit all vehicles.

MR. DEALER!

Why Automobile Owners need
ENGINAIR—of course, farmers
need them. About 96 million
emergency tire repairs were
made in 1947. When a spare tire
is too soft to use, or in case of a
slow leak, ENGINAIR prevents
disagreeable, serious and expen-
sive delays, especially as tires get
older and less reliable. ENG-
AIR gives fast power air service
anytime, anywhere. ENGINAIR
pays for itself by saving tires.
These facts will sell ENGINAIR
to your customers.

MAIL COUPON TODAY!

G. H. MEISER & CO., 327 East Marquette Road, Chicago 37, Illinois

Send me full information, price lists, etc. about ENGINAIR engine operated tire pump.

NAME

ADDRESS

CITY ZONE STATE

JOBBER NAME

G. H. MEISER & CO.

ESTABLISHED 1906

327 EAST MARQUETTE ROAD

CHICAGO 37, ILLINOIS

British Engineers Work To Produce Gas Turbines

CONTINUED FROM PAGE 164

automobile manufacturers, are also engaged in experimental work on a small turbine designed for use in a standard Rover passenger car. However, engineers from both Rover and Centrax agree that it will require at least five more years of development before gas turbine engines be-

come a commercially practical proposition. Many problems remain to be solved, the most important being reduction of the high production and operating costs. Both material and workmanship are expensive, and specific fuel consumption of a small gas turbine is twice that of a reciprocating engine.

Other technical difficulties to be surmounted include the development of a simple reverse gear,

a clutch or coupling that will isolate the power plant from the wheels, and a suitable reduction gear, as the turbine rotates twelve times faster than a normal automobile engine.

On the other hand, the gas turbine eliminates the need for a change speed gear, as its speed varies with the load, and no ignition system or cooling system is necessary. Light weight, smooth continuous power output, and absence of vibration are important advantages.

SPEED-WET* DISCS ARE 3 WAYS BETTER!

- ✓ ALL RESIN BOND
- ✓ ALL FIBRE BACKING
- ✓ ALL DURABONDED COATING

When a single #36 "Speed-wet" Disc does the work of a #16 and #24 — that's a pretty good disc! When a single #50 "Speed-wet" Disc strips a door panel "ready to paint" — that's pretty good, too! But when we watch hundreds of shop tests and listen to hundreds of top-flight body men comment that the new "Speed-wet" Discs are superior to any discs they've ever used — we know that the three-way improvement we've built into them pays off in the shop.

"Speed-wet" Metalite Fibre Discs are the economy shop disc because they do more work. Write for our new "Speed-wet" Disc folder and tell your Jobber "Speed-wet" Discs next time.

* Reg. U. S. Pat. Off.



BEHR-MANNING

(DIVISION OF NORTON COMPANY)

TROY, N. Y.

QUALITY COATED ABRASIVES SINCE 1872

Chevrolet Announces Gain In Approved Mechanics

Nearly 4000 mechanics more than last year in Chevrolet dealerships throughout the country passed the recently completed Approved Mechanics examinations, reported the Chevrolet Motor Division.

Figures just compiled show that 22,312 men passed the Approved Mechanics examination and 4675 passed the Approved Body Mechanics examination, for a total of 26,987. This compares with a total of 23,040 who passed the examinations last year.

"This increase is gratifying to Chevrolet from two standpoints," said T. H. Keating, general sales manager of the Chevrolet Motor Division. "It shows that the number of approved mechanics serving Chevrolet owners in individual dealerships is increasing, and it also demonstrates that the capability of these mechanics continues at a high level.

"Particularly important from a service standpoint is the fact that more than 1900 of these mechanics were ten-year men—that is, they have passed similar examinations for ten successive years. This means that the service departments of Chevrolet dealerships are stable and highly skilled."

Diplomas certifying that the men have completed their course of training are to be awarded within a few weeks to the mechanics who passed the examination.

The examinations were given

CONTINUED ON PAGE 168

FACTORY-ENGINEERED

PONTIAC PARTS

FOR INDEPENDENT REPAIRMEN

*Pay Off
6 Ways!*

1—QUICK AVAILABILITY

Just phone and give your complete order. Your Pontiac dealer will assemble it fast and deliver it to you or have it ready for you to pick up. There's no need for you to maintain an expensive inventory of Pontiac Parts.

3—PRECISION FIT

Engineered especially for Pontiac—to fit correctly and save installation time.

5—FINE PERFORMANCE

Pontiac-Engineered Parts last long and run well—with new car dependability.

4—OWNER SATISFACTION

Most owners prefer to have you use Factory-Engineered Parts on their Pontiacs.

6—FREE TECHNICAL INFORMATION

Pontiac dealers will help you with free technical information on your Pontiac service jobs.

2—GENEROUS DISCOUNTS

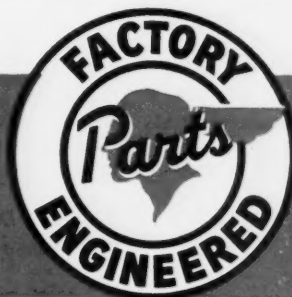
Your Pontiac dealer offers you attractive net prices on Pontiac Factory-Engineered Parts. With Pontiac parts you can always make a fair profit for yourself at a fair price to your customer.

COMPLETE IS THE WORD FOR PONTIAC SERVICE KITS

Pontiac dealers feature a wide assortment of Factory-Engineered Parts kits containing *all* necessary parts for a complete service job. There's no need to look up a series of part numbers and no possibility of doing a makeshift job because of a missing repair part. Each Pontiac kit services several years' models.

**THERE'S A PONTIAC DEALER
NEAR YOU TO SERVE YOU**

FAST!



Chevrolet Announces Gain In Approved Mechanics

CONTINUED FROM PAGE 166

to dealer-mechanics at the conclusion of a year-round program of training and instruction conducted by the Chevrolet National Service Department, under E. L. Harrig, director. The program is aimed at maintaining and improving the quality of dealer mechanics so they can better serve Chevrolet owners.

Each month, the Chevrolet Service Department sent a program of training to zone officials, for distribution to dealer service managers. This program contained an outline of the prescribed course of instruction for a two-hour meeting of dealer mechanics. Such an instruction period was held monthly at each dealership.

Review questions and answers were sent to the dealerships two months before the examination. Study of these questions in class

sessions constituted preparation for the examination.

The examinations were held this year in April, under the supervision of zone-office personnel. The mechanics' papers were graded in zone offices, and the results were sent to the Central Office.



BENDIX-SKINNER

1 Higher filtration efficiency at the lowest possible cost

2 Superiority of exclusive ribbon construction easily demonstrated

3 Non-disintegrating element can't collapse and clog carburetor

4 Easy to clean and replace

POINT FILTERS

For Gasoline



It's a cinch to add extra profits selling Bendix-Skinner 4 Point Filters. All you have to do is tell your customers the 4 big advantages Bendix-Skinner Filters give them. The low original cost and important savings in operation convince

economy-minded motorists right on the spot. Simple to install, Bendix-Skinner Gasoline Filters assure you a steady turnover and more satisfied customers. Order now from your Bendix-Stromberg and Bendix-Skinner Filter distributor.

SKINNER PURIFIERS DIVISION OF
1500 Trombly Avenue, Detroit 11, Michigan



"My wife thinks you're paying me too much money."

Body Engineers to Meet In Detroit in November

The American Society of Body Engineers, Inc., will hold their Annual Convention on November 3rd, 4th and 5th, 1948, at the Rackham Memorial Building, Detroit.

Speakers for the 8 general sessions will cover new trends in Styling, Production, Engineering, Small Cars, Seating Comfort, Truck Bodies, Buses and Coaches, Materials in Body Construction and Passenger Car Body Engineering.

The Convention features an industrial exhibit of Body Materials, Parts and Body Hardware of leading Manufacturers, many of which indicate future design trends. The exhibit will be open to all those interested, and it is expected that there will be a large turnout.

tion
held
the
erson-
were
e re-
ntial

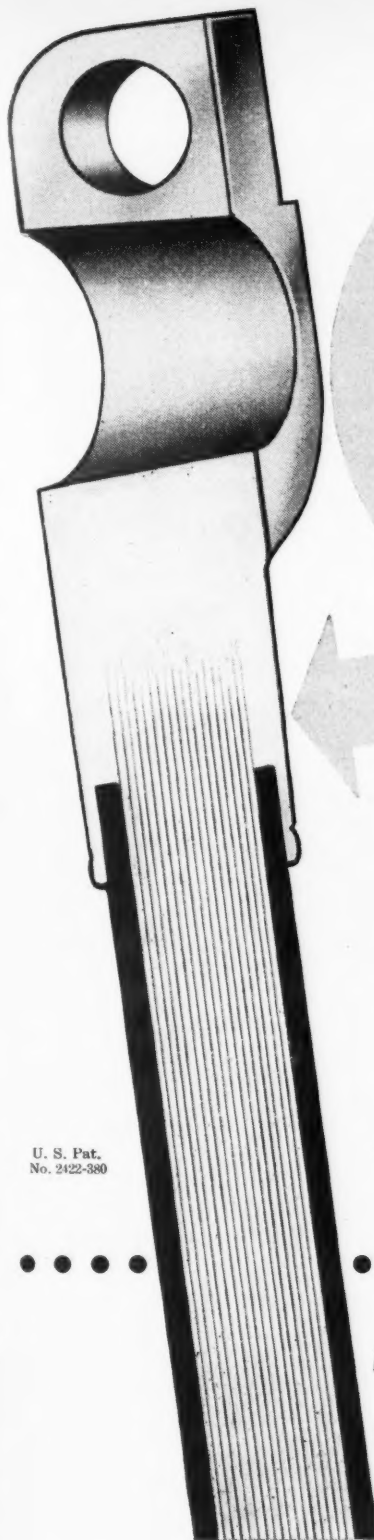


oo much

et
er

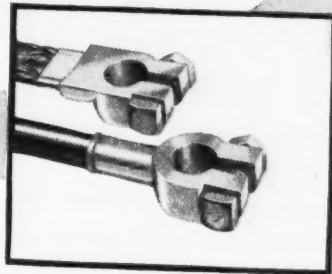
f Body
eir An-
ber 3rd,
ackham
t.
ral ses-
ends in
neering,
t, Truck
s, Mate-
and Pas-
ing.
s an in-
aterials,
of lead-
of which
ds. The
those in-
ted that
ut.

BER, 1948



U. S. Pat.
No. 2422-380

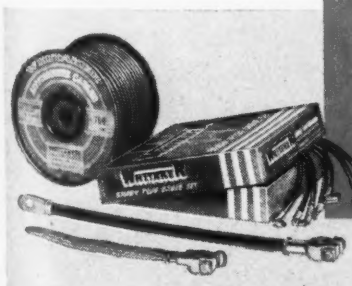
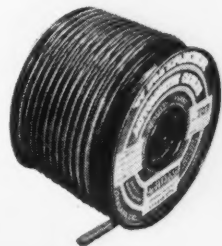
SOLID!
FLASH-WELD
..... the only **PERFECT**
cable-to-terminal connection!



Not crimped — not soldered — but *electrically welded* by a terrifically high amperage fusion of cable and terminal into *one solid* conductor. **FLASH-WELD** is the *only* cable to offer the perfect cable-to-terminal connection — an exclusive Whitaker development. Now offered in all Whitaker Insulated Battery Cables and Braided Ground Straps. For 100% efficient cable service, use the Whitaker 100% line of **FLASH-WELD** Battery Cable.

FOR SPARK PLUG CABLE there's none better than
WHITAKER "707"

A superior quality 7 copper strand, 7 mm. neoprene heavy duty cable. Withstands heat, cold, moisture, corona, grease, oil and endures much greater frictional wear. See your Whitaker jobber today!



WHITAKER
CABLE CORPORATION

Pioneers and Leaders in Automotive Cable Products Since 1920

KANSAS CITY, MO.
ST. JOSEPH, MO.
PHILADELPHIA
LOS ANGELES

Tri-Wheel Corp. Builds Three-Wheel Utility Car

A three-wheel car, called the Thrif-T, is going into production in North Carolina. Primarily designed as a commercial vehicle, one of the four models, however, has two seats installed in the rear, making a three-passenger car out of it. The prototype has been driven over 20,000 miles, including a round trip from New York to Florida, but C. D. Gill, presi-

dent of the \$200,000 Tri-Wheel Corporation, thinks its greatest

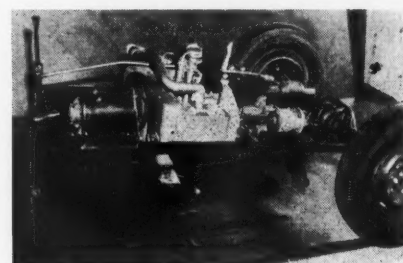


Thrif-T, latest three-wheel car, is built especially for city delivery.

value will be for light deliveries in cities.

The two-cylinder motor is mounted in a cradle beneath the deck in the rear and can be removed from the body within 30 minutes and rolled away on the rear wheels. A single seat is in the front. The air cooled motor, and all other elements, are standard automotive parts. Top speed is 40 mph.

Gill says he designed the machine especially to meet the needs for quick city delivery of light loads. "It's unnecessary to employ a 70-mile per hour car for delivery in town where the speed limit is 35 miles," he said, "and it is uneconomical to use a one-ton truck for delivery of such items as laundry, flowers and small sundries."



The "package power plant" of the Thrif-T is mounted on a cradle; can be detached from the car in 30 minutes.

As for that single wheel in front, he explains, "I used one wheel because the car doesn't need two. It cuts down on initial

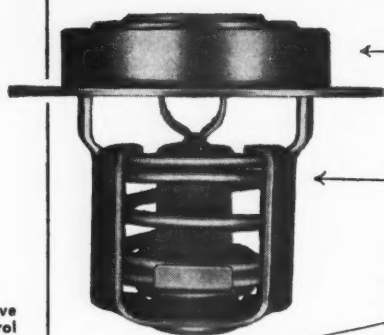
CONTINUED ON PAGE 172

YES, THE FIRST!...



the first major improvement in replacement thermostats since the introduction of DOLE adjustable block-type thermostats

DOLE DV REPLACEMENT THERMOSTATS



Tightly seated valve for quick warm-up.

Powerful spring to control high pump pressure.

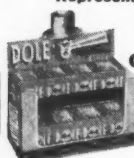
Positive acting, accurate thermal element. Particularly recommended for sealed cooling systems with pressure caps.

- DV Thermostats have extra power to control high pump pressures.
- Operation is not affected by pressure of sealed cooling systems.
- Positive-acting thermal unit assures complete control of opening.
- Tight-seating valve reduces "leakage" to a minimum for correct operation.
- Designed on principle of "solid expansion" rather than "vapor pressure"

The new DV Thermostat is completely new—unlike any have you ever seen before. DV Thermostats are designed for use with pressure caps and sealed cooling systems. Positive-acting thermal unit assures remarkable performance and economy.

Recommend thermostat replacement every time you write a job ticket. Four types of DV Thermostats fit almost all cars.

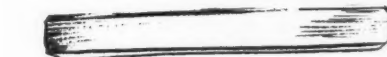
THE DOLE VALVE COMPANY
1901-1941 Carroll Avenue, Chicago 12, Illinois
Representatives in Principal Cities



Get This Dole Sales Maker Display

These eye-catching displays will help you sell. Ask for the Dole "Sales-Maker." It contains a balanced stock of Dole Thermostats—adjustable and non-adjustable block types for current model cars.

CONTROL WITH DOLE



R. P. R. C.

DURO-CHROME TOOLS

...the tools every mechanic wants



NEW!

And it's a knockout—ask your Jobber to show you the 114-piece De Luxe Workshop Set illustrated here. Each one an essential tool to make your job more profitable and easier too! With Duro-Chrome Tools on the job you will be inspired and they will promote customer confidence in your workmanship.



...and HOW to have them!

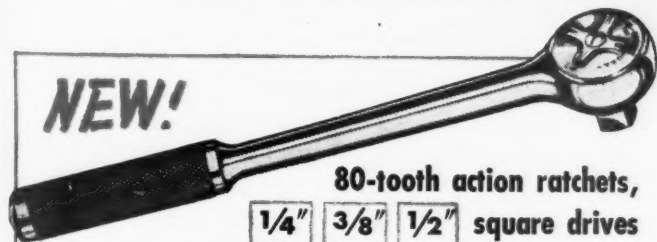
They Go Together



NEW!

"Cruiser Cabinet" Saves steps . . . organizes your job. Puts the right tool in hand when needed. Super streamlined construction, rounded corners, chrome plated handles, finished in attractive Chinese Red baked enamel. Rugged construction, yet easy action even when heavily loaded.

NEW!



80-tooth action ratchets,

1/4" 3/8" 1/2" square drives

Just think! Ratcheting action in less than 5 degrees. Compact head, totally enclosed—fool-proof. Reverses at a finger flip without removing from work. Does it stand up on those rusted and balky nuts? You can bet it does! It's all alloy steel which has high tensile strength—resistance to wear—high impact strength. You will brag about it too!

Do Yourself a Favor—

Make a date today with Duro-Chrome Tools. Start with this complete set . . .

or buy several tools each pay day and add them to your collection.

Soon you won't be just WISHING for a fine set of tools; you'll have it!

DURO METAL PRODUCTS CO.

2649 North Kildare Avenue • Chicago 39, Illinois

R-2974

cost and operation expenses, too."

The utility model (three passengers) has a future, Gill thinks, for persons commuting to work and for running household errands. "I know a man who drives a \$2500 car three miles each day to catch his train to the city, leaves the car parked, drives it home again. That's a substantial

investment to put into such a light job, and this car will do the work just as well."

With different body types, the Thrif-T will sell at from \$745 to \$785, FOB Oxford, N. C. Initial production will be at the rate of 50 per month, ultimate goal 500 per month. There already is a large backlog of orders.

Federal Reserve Board Finds Automotive Prospects Bright

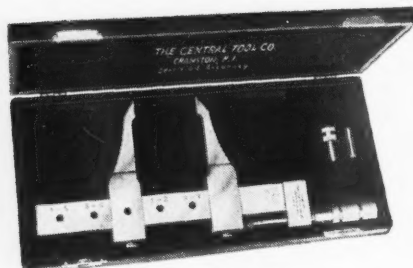
The third annual survey of consumer finances conducted by the Federal Reserve Board confirms all optimistic reports about the automobile industry. It shows that about 7 million buyers purchased new or used automobiles in the United States last year, and that demand shows no sign of diminishing. The report also showed that one out of every three cars was bought on credit last year, compared with two out of every five purchases of other durable goods. The survey also turned up indications that demands for new cars by families with incomes below \$3,000 has diminished, but that the number of spending units in higher income levels planning to buy new cars has increased, according to the results of the survey.

NEW Main Journal Micrometer



For measuring crankshaft journals and many other parts in automotive shops this new Micrometer No. 510 MBM saves time, helps make better repairs and increases profits. It measures the diameter of main journals up to 5" while the crankshaft is in the engine: Measures by thousandths of an inch the amount of journal wear or out-of-round.

No. 510 MBM eliminates guesswork and time-consuming fit-and-try methods when installing new main bearing inserts. Made by the largest producer of automotive micrometers in the world.



Net Price \$39.65
Complete with Standard and
Leatherette Case

THE CENTRAL TOOL COMPANY
462 WELLINGTON AVENUE
CRANSTON 10, RHODE ISLAND

Central Mike says:
"Ask your Jobber for further information or write for Catalog 20."

CERTIFIED
Accuracy
MICROMETERS



FOR HALF A CENTURY SPECIALISTS IN FINE MICROMETERS

GM Wage Settlement Did Not Set a Pattern

Although there has been a great deal of talk about the General Motors wage settlement setting a pattern formula for other companies in the industry, actually, there seems to be little trend in that direction. Briefly, the General Motors agreement with the UAW-CIO and the UE-CIO ties a wage increase of 8 cents an hour, plus 3 cents annual improvement factor, to the cost of living. If the BLS cost of living goes up or down, wage rates follow, with the qualification that they cannot drop more than 5 cents an hour during the life of the 2-year contract. At the beginning of the second year, 3 cents an hour is added as the improvement factor. The Chrysler agreement provides a straight raise of 13 cents an hour across the board with no relationship to the rise or fall of living costs. The 2-year contract is reopenable once on the issue of wages. In both cases demands for pensions, hospitalization insurance, and guaranteed annual wages were dropped. In the case of General Motors the

CAR BY CAR

EVERY



OWNER

IS A CUSTOMER FOR THIS NEW "BY-CAR" FUSE SERVICE



Where sales demand, Littelfuse CAR BY CAR assortment can also be purchased twenty packages to a box. One box—all for Ford; one box—all for Chevrolet; or one box—all for Plymouth. A MUST FOR CAR DEALERS.

The "Big 3" CAR BY CAR assortment of 20 packages of 5 required fuses each, is available in the following breakdown: 7 packages for Ford, 7 packages for Chevrolet, and 6 packages for Plymouth. HOT FOR SERVICE STATIONS!

• **NEW "BY-CAR" FUSE SERVICE . . .** With the new LITTELFUSE packaging idea, every car a market now!

• **NEW SALES . . .** You can sell a set to every one of your Chevrolet—Ford—Plymouth customers before it becomes an emergency.

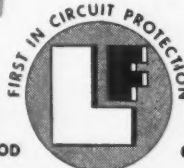
• **NEW KNOW-HOW . . .** Here's how: LITTELFUSE—and LITTELFUSE alone—is packaging every fuse used in a Chevrolet in **one** package! The same for Ford and Plymouth.

• **NEW TURN-OVER . . .** you sell the whole set instead of just one—and sell it the next time the car comes in—not just when they come in with a fuse blown!

• **NEW CONVENIENCE . . .** Each package of five is printed with a fuse application chart for the car the fuses service. It's sensational. Nothing like it for service convenience and **INCREASED SALES!**

LITTELFUSE

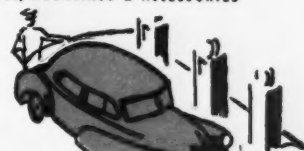
4785 NORTH RAVENSWOOD



Incorporated

CHICAGO 40, ILLINOIS

NITE-T-LITE • SWITCH-LITE • IGNITION-FRITZ • NEON INDICATORS • SWITCHES • CIRCUIT BREAKERS • FUSES, MOUNTINGS & ACCESSORIES



union shop issue, which also had been a heated issue, was dropped when the corporation agreed to voluntary dues check-off subject to approval by NLRB. Chrysler also granted increases of 8 per cent, with a minimum of \$20 a month to salaried personnel, and GM probably will do likewise. There has been considerable discussion about

the GM formula, much of it being critical. Frank Rising, general manager of Automotive & Aviation Parts Mfrs., Inc., points out that if the formula is based on the rising cost of living of about 69 per cent since 1940 and is an effort to bring wage earners scales up by a slightly higher percentage, the pattern has already been met and exceeded

in many cases. Wage scales in a great many industrial plants, he states, have risen by much more than 69 per cent from the 1940 basis especially when fringe benefits are added. Consequently, he continues, to match the pattern it would be necessary to reduce some current wage rates drastically, such as for coal miners, building-trades workers, and many others. The GM settlement came as a bomb shell to the automotive industry and was considerably higher than most companies had expected would be necessary to effect settlement. It came at a particularly difficult time for Ford since the company had already definitely established its prices for the 1949 Ford, publicly shown June 18. While these prices had not been announced it is believed that they were somewhat lower than those announced officially just prior to introduction of the car to the public. The general guess is that the company was forced to push prices up about 2 per cent from the original figure because of the higher than expected wage settlements by GM and Chrysler. What the smaller independents will settle for still is an open question, but it is difficult to see how they can get out for any less than 11 cents an hour.

How to make MORE MONEY with a DAKE PRESS



Do those press jobs yourself —and keep the profits

You can't make money on jobs that you "farm out" to someone else. Riveting ring gears, pressing cylinder sleeves, general riveting and straightening, and replacement of bushings, bearings, or gears are profitable jobs if you have the equip-

ment to do them in your own shop.

The right size Dake Press will do these extra jobs for you and let you keep the profits. Investigate the complete line, today. Mail the coupon for your free copy of the Dake Press Catalog.



Dake Engine Company
626 Seventh St., Grand Haven, Mich.
Please mail me a copy of the latest
Dake Arbor Press Catalog.

Name _____
Company _____
Address _____
City _____

M. H. Swanman Continues As Treasurer of AAR

M. H. Swanman of Kansas City, Mo., nationally known as "Bob," elected Treasurer of Automotive Affiliated Representatives (AAR) was recently in line for the post of vice-president, but he chose to finish out his regular term.

Having just revamped the important working routine of the treasurer's job, Bob felt it was his duty to carry on as he has most ably done in the past. His decision to continue as treasurer was with the thought that he could be of more valuable assistance to the association and its members.

After repeated futile efforts to induce Bob to reconsider, the Board of Directors of AAR are resigned to the fact that he very definitely wants to be excused from the new honor.

MAKES A GOOD BUSINESS

Better

WITCOTE

REG. U. S. PAT. OFF.

#4

UNDERCAR PROTECTION

LISTED WITH



UNDERWRITERS' LABORATORIES
Re-examination Service

WITCOTE #4 gives better undercar protection—deadening vibration, cushioning against stones and gravel, preventing rust. Customers are better satisfied.

WITCOTE #4 sprays on easier, under low air pressure (30-40 lb) with no overspray and no masking. Service men like it better.

WITCOTE #4 is safer (listed with Underwriters' Laboratories) and takes less time to apply. That's why it makes more money, and service shop owners like it better.

HAVE YOU TRIED THE NEW WITCOTE #4? Order it from your jobber—try it—you'll say it's the best undercoating material you ever used.



WITCO CHEMICAL COMPANY

438 N. MICHIGAN AVE.
CHICAGO 11, ILL.

ESTABLISHED
1920

OFFICES IN
PRINCIPAL CITIES

**DESIGNED TO
HELP YOU *SELL***
Original
COLE-HERSEE switches
for Replacement use



NEW TYPE SWITCH DISPLAY by COLE-HERSEE



**A
REAL SALES
BOOSTER**

A. S. I. SHOW Booths B-294 & B-296

- Holds 12 switches — your own assortment or 12 of a kind.
- Display can be split to hold 6 switches if desired.
- Shipped in special carton with all switches mounted.
- Modern styling — colorful.
- Size — 11" long, 5" high.



COLE-HERSEE CO.
20 Old Colony Ave., Boston 27, Mass.

Manufacturers of

HEADLAMP SWITCHES
STARTER SWITCHES
HEATER SWITCHES
PANEL SWITCHES
TRAILER CONNECTORS

PLUGS
SOCKETS
ACCESSORIES
FUSE BLOCKS
DASH & PILOT LIGHTS

DIRECTIONAL SWITCHES
TOGGLE SWITCHES
PUSH-PULL SWITCHES
HEADLAMP ASSEMBLIES
FOGLIGHT SWITCHES

Maremont Launches Muffler Inspection Campaign

A nationwide sales promotion campaign calling for inspection of mufflers has been launched by Maremont Automotive Products, Inc., Chicago, Ill. The entire campaign will be built around a



graphic poster portraying a satanic figure hovering over a smoking muffler, headlined with the theme of the program, "This'll Kill Yuh!" and featuring the danger of carbon monoxide poison. Special magazine advertisements will appear in all major automotive trade papers throughout the campaign. In addition to these advertisements, a special series of mailing cards will be prepared for Maremont's regular direct-by-mail service.

SHIM STOCK!

ready for use without
fumbling or waste...

It's still in the package, still protected, still rolled...but it's ready for instant use! Just pull the required amount of either brass or steel out of the package slot and snip it off. You're ready for the job!

No fumbling or spoilage with long strips or sheets of easily damaged thin gauge stock. No problem of protecting your supply between jobs. Gauge plainly marked on container...no miking.

Gauges Available in Dispensing Cartons

6" x 100" rolls			
.001	.003	.006	.009
.0015	.004	.007	.010
.002	.005	.008	.012

Heavier gauges, .015, .020, .025 and .032", are packed in envelopes containing four flat strips, each 6" x 25". Laminum (Reg. U. S. Pat. Off.), the laminated stock that simply p-e-e-l-s off to adjust the gauge, is sold in strips, 2" x 9".



Ask your automotive or industrial distributor about Laminated Shim's precision, packaged materials. He has special assortments, conveniently packaged to meet your special needs.

LAMINATED SHIM COMPANY

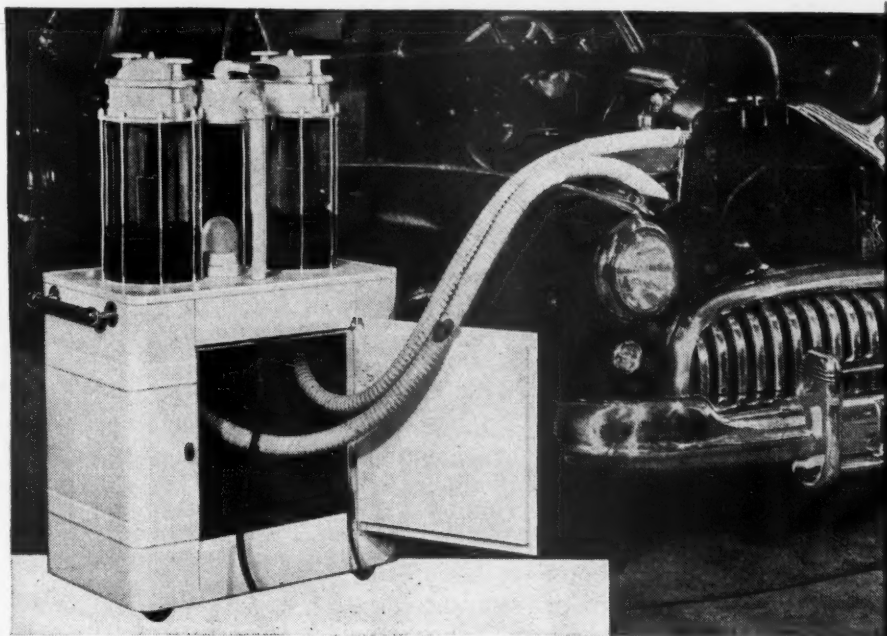
INCORPORATED

GLENBROOK, CONNECTICUT



"Are you a Republican or a Democrat?"

\$ Cleans Cooling Systems in one TEN-MINUTE Operation



Triple Action Cleaning . . .

1. BY HEAT
2. MECHANICAL AGITATION
3. BY CHEMICAL ACTION

No moving parts—minimum maintenance.

Less than 30 minutes for complete set-up and purge.

Easy to operate from ordinary AC-DC shop current and air compressor.

Visible cleansing action loosens, dissolves, and filters out rust, scale, grease and grime.

Triple-action, continuous reversing motion thoroughly cleanses radiator and motor-block water jackets.

Gleaming metal cabinet offers exceptional merchandising appeal.

NATIONALLY ADVERTISED PRICE

\$ 295.00

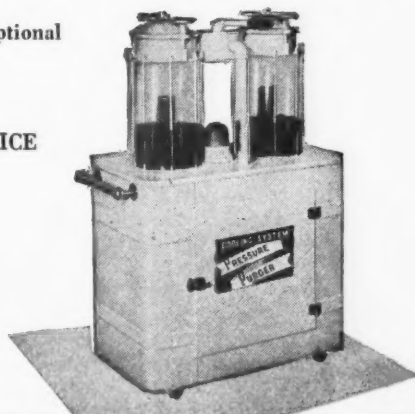


PRICE, \$.50

PURGITE . . . the new 7 chemical Cooling System cleaning compound was developed especially for use in the CHOLDUN PRESSURE PURGER.

These chemicals act as a water softener . . . remove rust scale, lime, iron and metallic deposits. They dissolve grease, tar, oil and dirt. Will not harm radiator, hose, aluminum, the motor block, your hands, clothes or finish on your car.

PACKAGE, 1/2 lb.



Choldun

MANUFACTURING CORP.

New Haven, Conn.

SALES OFFICE: 512 FIFTH AVENUE, NEW YORK 18, N. Y.

CAR DEALERS and SERVICE STATIONS have actually paid for their PRESSURE PURGER in their first week of Service . . . YOU CAN TOO . . . it's a MONEY MAKER . . .

CHOLDUN MANUFACTURING CORP.,
512 Fifth Avenue, New York, 18, N. Y.

Please send me complete details on the PRESSURE PURGER . . . and how it will increase sales.

Firm Name.....

Address.....

City..... State.....

Want a B'ar For Punishment?

Here's a
Honey!



These bars are just made for getting into trouble—safely. Their tough steel makes them dependable for the hardest work, and special shapes protect you when you put on the pressure. From the versatile bending bar (with more than 100 positions) to simple pry bars, there's one to fill your needs...so you won't get "stung" when you retire your "makeshifts" and buy these bars from your dealer. He's sure to have the ones you want because

**Tools you need—
we make!**



Write for catalog to
2226B SANTA FE AVE.,
LOS ANGELES 54, CALIF.

PROTO TOOLS
First in Quality
MFD. IN U.S.A. BY
PLUMB TOOL CO.

PROTO—Trade-mark reg. U. S. Pat. Off.

Rankin Purchases New Plant at Wichita Falls

Opening of a new Southern plant to handle production and distribution of Rankin seat covers in the South and Southwest was announced recently by Rankin Manufacturing Company, Cedar Falls, Iowa.

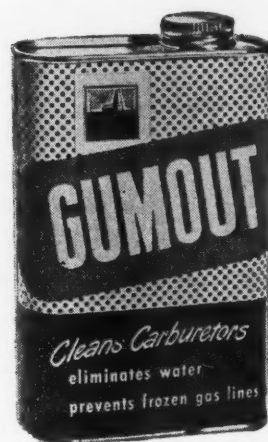
The new plant is located at Wichita Falls, Texas, and will have an initial production area of 10,000 square feet. Rankin officials in announcing the expansion program said that the new plant is a part of a long range expansion program which the Rankin organization has planned nationally. A West Coast branch was opened early in the spring in Berkeley, Calif.

In opening the Wichita Falls plant the Rankin company purchased the business and production facilities of the Dudley-Taylor Company, makers of Taylor-Maid seat covers. The plant already had extensive production facilities which are being expanded immediately. The new Southern plant will be under the direction of Wayne Wilson, and Southern and Southwestern sales directed by Harry F. Scott. The plant will serve New Mexico, Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama, and Georgia. Rankin Metal Airfoil Visors will also be distributed from the Wichita Falls factory.



"I can't bear to tell him this is only the first lap."

Motorists buy it,
like it
and buy it again!



Profits pour in with GUMOUT!

Real proof of any product's public acceptance is its percentage of repeat sales.

That's why Gumout is today's top profit item for you. Customers buy it, like it and buy it again! (A recent random check of five retail outlets reveals that of 116 regular customers who first bought Gumout six months ago, 111 are now regular users.)

GUMOUT—a pint poured in 10 gallons of gas every 1,000 miles — **CLEANS CARBURETORS**. And, because every car runs better with a clean carburetor, customers immediately note the big difference in power and performance. They buy Gumout again.

Write today for Gumout
profit facts!

PENNSYLVANIA REFINING CO.

2687 Lisbon Road, Cleveland 4, Ohio
Butler, Pa. Edgewater, N. J.

**NOTHING BUT
CLEAN FUEL
AND
HOT PROFITS
GETS THROUGH**



the
**DUREX
GASOLINE FILTER**

There's no surer way to screen profits from the almost unlimited market for efficient gasoline filters than to display and sell the revolutionary Durex. Every owner of a car, truck or bus is just waiting for you to tell him about this new contribution of powder metallurgy to improved engine performance.



Durex gasoline filters are distributed nationally by United Motors Service. Order a supply from your local distributor.

The highly efficient Durex gasoline filter blocks lint, dust, dirt, scale and water from entering fuel lines and tanks. Only liquid fuel can travel through the maze of passages between its bonded metal spheres. This finer filtration means more complete protection . . . less chance for carburetor "foul up."

Just show the sturdy Durex to customers . . . let them inspect it, and you've got a sale. Low priced, easy-to-install Durex gasoline filters will keep their carburetor jets clear—and your cash register clogged with profits.

MORRINE PRODUCTS

DIVISION OF GENERAL MOTORS CORPORATION, DAYTON, OHIO

Equip with Grote's
new Flameless Flare
at only \$9.50 per set.

Ask your jobber.

*the Brightest
Spot on
the Road*

Grote

the GROTE MFG. CO., Inc.
BELLEVUE, KENTUCKY

THE COMPLETE LINE

that
Completely Satisfies

Since 1906

The
Fitzgerald Mfg. Co.
Yorrlington, Connecticut

Fitzgerald
GASKETS

Write for this "PROFIT-PROVER" PLAN

Prove the money-making performance of the Milwaukee "No Nick" Fender Hammer in your own shop. Attach this coupon to your business letterhead for complete information on our "PROFIT-PROVER" Plan. Mail to Milwaukee Electric Tool Corporation, 5330 W. State St., Milwaukee 8, Wis.

**It Pays to
Buy the Best**

Complete
SPRING
SUSPENSION
PARTS

HEAT TREATED
ELECTRICALLY

MOOG INDUSTRIES INC.
ST. LOUIS, MO.

Genuine
SERVICE
INDIANAPOLIS
"Measurably Better"
SPRINGS

SERVICE SPRING COMPANY
INDIANAPOLIS 6, INDIANA

Crosley Seeks Plant Space For More Car Production

Continuing high demand for its small passenger and commercial cars has made it necessary for Crosley Motors, Inc., to locate additional production facilities to supplement those of its Cincinnati, Ohio, and Marion, Ind., plants. In addition to the automotive vehicles produced by the company, the 26.5 horsepower engine apparently is in good demand for industrial, marine, and other uses. Engines are being supplied for farm power plants, air conditioning, refrigeration, and for use in speedboats. A Kansas airplane company is developing a small light-weight plane powered by the Crosley engine. Property adjacent to the Cincinnati engine plant has been acquired to expand output. The company also is looking for a plant of about the same size as the Marion operation and in a strategic location to speed the distribution of cars. Capacity of present facilities is about 40,000 cars and trucks a year.

NEW **GROVER** **Vacuum**
CADET **Horn**

INCREASE YOUR PROFITS NOW
Demonstrate this sensational new horn to your present customers — watch your profits increase!
Send for the facts — NOW. Also ask about the "Ki-Yi" Barking Dog Horn!

GROVER PRODUCTS CO.
1221 S. Hope St., Dept. MA, Los Angeles 15, Calif.

\$15 SPENT
for the
COMPLETE
MOTOR AGE
SERVICE
MAY SAVE
YOU \$1500

The complete service embraces 12 monthly issues of Motor Age magazine and the annual Motor Age Flat Rate & Service Manual. Either the magazine or the manual can save you hundreds of dollars by better service procedure, but both are even better, as each supplements the other.

We are now taking orders in advance for the 1949 edition, out sometime next Spring. As this indispensable repair price and procedure book is always oversold long before it appears, now is the time to order. Address Motor Age, Chestnut & 56th Sts., Philadelphia 39, Pa.

Complete UNIVERSAL JOINTS



Here are the Universal Joints that your customers will want to carry. Write today for complete information about the AMKO Line . . . the leader in the replacement field.

AVAILABLE NOW—For Chevrolet 33-36 Std.; 1934-36 Master; 37-39 and 40-47; for Ford 32-48; for Plymouth 34-47.

Also a complete line of Journal Assemblies. Write for circular.

At all Good Jobbers—Mfd. & Dist. by

AUTOMOTIVE MAN'G CO., INC.
570 W. FULTON ST. CHICAGO 6, ILL.

NT
TE
GE
E
VE
00

aces 12
ge mag-
Age Flat
ther the
an save
y better
are even
nts the

rs in ad-
ut some-
ndispens-
ure book
ore it ap-
rder. Ad-
& 56th

POINTS



the Uni-
ints that
customers
to carry.
day for
informa-
out the
ne . . .
or in the
ent field.
olet 33-
7-39 and
Plymouth

al Assem-
Dist. by

CO., INC.
AGO 6, ILL.

MBER, 1948



ALLEN Gives you the best in Tune up Equipment

The new Motor Analyzer and Syncrograph are the finest that Allen has ever produced . . . easier to use, more accurate, more beautiful than ever. Send the coupon below for complete information today or see your jobber's floor sample.



Ultra Modern Appearance, Indirectly lighted instruments and firm name signs. Battery operated with built-in trickle charger.



Allen equipment is simpler to operate, easier to understand. Test leads are color coded. Personal instruction by factory trained engineers included. With Allen equipment you can make any known field test—easier, quicker and more accurately.



All voltage and current regulators tested with only two connections.



All known factors of battery and magneto ignition coils and condensers accurately tested either on or off vehicle.



Fuel pump tested for pressure, vacuum and capacity with engine operating, an exclusive feature.



Gas analyzing bridge located in tail pipe sampling gun, eliminates hose connections and greatly speeds analyzer response. Cold drafts do not affect accuracy.



Syncrograph tests distributors on or off vehicle. 3000 distributor specifications listed. Cam angle reading on good distributors not affected by varying distributor speed.

ALLEN

ELECTRIC and EQUIPMENT COMPANY

2131 NORTH PITCHER STREET • KALAMAZOO, MICHIGAN

ALLEN Electric and Equipment Co.
2335 North Pitcher St., Kalamazoo, Michigan
Please send me complete information on the Model E-300 and Model E-316.

Name _____

Address _____

City _____ State _____

Motor Testers

Syncrographs

Fast Chargers

Welding Equipment

Electrical Laboratories

Cal-Van
GARAGE TOOLS

2 and 3 FINGER TYPE

CARBON SCRAPER
LIGHT BULB PLIERS
RING COMPRESSORS
CREEPER CASTERS
BUSHING REMOVERS
REAMERS

GEAR PULLER

THREE-IN-ONE PULLER

WRITE FOR CATALOG

NO. 10 TIMING GEAR PULLER

Cal-Van
MACHINE PRODUCTS, INC.
JACKSON, MICHIGAN, U.S.A.

To form a
MORE PERFECT UNION

USE PURITAN GASKA-SEALS
No. 1, 2 and 3

When in DETROIT

Stop at Hotel Wolverine. Centrally located on Elizabeth Street, a block east of Woodward, overlooking Grand Circus Park. Five hundred rooms, each with tub and shower. Good food. Ample parking space—garage service. Home of THE TROPICS, most unusual night spot in Detroit.

HOTEL WOLVERINE
"The Goodwill Hotel"

RATES FROM
\$2.75 SINGLE • \$4 DOUBLE

WAA Must Sell Auto Parts Before End of the Year

With inventories of automotive parts and accessories reduced to less than 5 per cent of total acquisition cost, War Assets Administration has told its regional offices to complete disposal of these and other personal property items not later than December 31.

Declarations of automotive parts and accessories totaled about \$376 million as of July 1, the cut-off date for declarations as set by Congress. As of that date, about \$19.7 million worth (acquisition cost) remained for disposal. Subsequent sales have chipped an additional \$5 million from the total, officials told the MOTOR AGE representative.

Crosley Plans to Double Engine Plant Capacity

Crosley Motors is planning to double production capacity of its engine plant. The company has awarded contracts for an addition to its plant which will provide production capacity of 500 engines a day. Powel Crosley, Jr., president, said that demand for the lightweight Crosley car is now nearly double the monthly production.

CLUTCH FACINGS • RIVETS

LOOK AT THAT APPLE GO-OO

QUICK CHARLOTTE GET ME UNDER THAT BALL!

JUMP ON JUNIOR

BASEBALL LABOR DAY

WHAT A STOP! WHAT A CATCH!

SAVED BY SOUTHERN BRAKE LINING

SOUTHERN
FRICTION MATERIALS CO.-CHARLOTTE, N.C.

BRAKE SHIM STOCK • RELINING EQUIPMENT

HYDRAULIC BRAKE PARTS

For greater undercoating PROFITS...

LOOK TO...

Write for a Davison Representative or authorized distributor to give you the full story.

THE DAVISON CHEMICAL CORPORATION
BALTIMORE 3, MD.



SPINNING POWER

a Companion Product of Full-Spark Plugs
GLOBE-UNION INC.
MILWAUKEE 1, WIS.



John BEAN

- WHEEL ALIGNERS AND CORRECTION TOOLS
- WHEEL BALANCERS AND BALANCING TOOLS
- CAR WASHERS • WEIGHTS

For information ask your jobber or write to

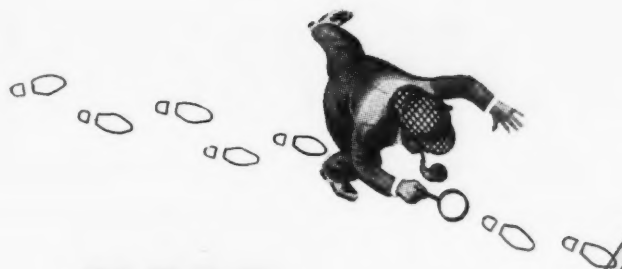
JOHN BEAN

Div. FOOD MACHINERY CORP. fmc
LANSING 4, MICHIGAN

• RUGER • Hydraulic FLOOR CRANES and Arbor Presses

RUGER EQUIPMENT CO., Inc.
2425 St. Clair Ave. P. O. Box 3821
Cleveland 14, Ohio Portland 8, Ore.

GET LONGER, TROUBLE-FREE PERFORMANCE with **Pedrick** precision-machined **PISTON RINGS** in guaranteed **ENGINEERED SETS** For every Car, Truck, Bus and Tractor



**CLEAR
EVIDENCE...**

**HI-TEST L·O·F SAFETY
PLATE**

that you use the finest Safety Plate Glass

L·O·F provides an easy way for you to show customers that you've used top quality in glass replacement.

The identification "L·O·F Hi-Test Safety Plate" is stenciled clearly on the glass. It highlights three quality points:

1. PLATE GLASS—for maximum freedom from distortion.
2. SAFETY PLATE GLASS—two panes laminated with a sheet of clear, tough plastic.
3. L·O·F GLASS—a name that is recognized for top quality.

This short sales story tells car owners that they have better glass for safer seeing. Be sure this quality reminder is clearly visible after all your glass replacement jobs. Libbey-Owens-Ford Glass Company, 7598 Nicholas Building, Toledo 3, Ohio.

WHEREVER VISION IS IMPORTANT
USE L·O·F Polished Plate GLASS



LIBBEY·OWENS·FORD

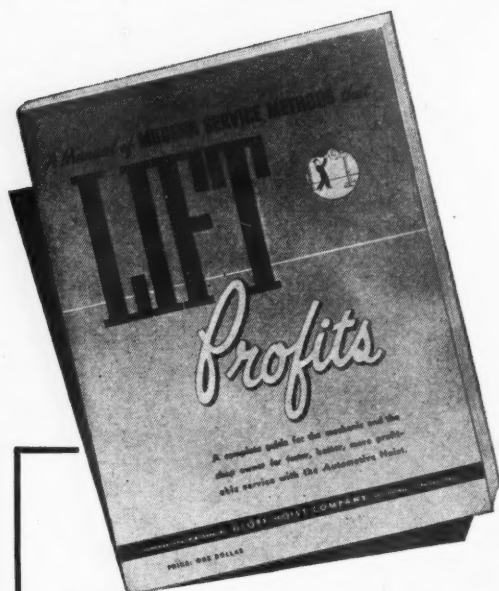
a Great Name in **GLASS**

Rear View mirrors
E-Z-I Rear View mirrors
Visor Vanity mirrors
LIBERTY MIRROR DIVISION
Brackenridge, Pa.

CAR DEALERS! GARAGE OWNERS! SERVICE STATION OPERATORS!

HOW TO USE MODERN AUTO LIFTS

FOR BIGGER SERVICE PROFITS



Partial Contents:

Types of Hoists . . . Installation and Operation . . . Service Selling . . . Rear Axle Assembly . . . Differential Carrier . . . Body and Fender Work . . . Brakes . . . Rod Bearings, Pistons and Valves . . . Lubrication . . . Shock Absorbers . . . Hydra-Matic Transmissions . . . Undercoating, Washing and Steam Cleaning . . . Hoist Requirements . . . Truck Service . . . Car Dimensions.

9"x12" page size . . . 54 pages . . . more than 150 photos and charts . . . two colors

Price only **\$1.00** POSTPAID

SEND THIS ORDER FORM

Globe Hoist Company
Dept. A
100 E. Mermaid Lane
Philadelphia 18, Pa.

Enclosed is \$..... (check, M.O. or currency) for which you are to sendcopies of "LIFT PROFITS" MANUAL (at \$1 per copy, postpaid.) PLEASE PRINT PLAINLY.

NAME.....

ADDRESS.....

CITY.....ZONE.....

STATE.....

Here's the first complete Hoist Handbook; written for the mechanic and shop owner

JUST OUT! ORDER YOUR COPY TODAY!

"LIFT PROFITS" Manual shows you many important services you can do with a lift; and shows exactly how these services are done. By following the simple, step-by-step photos in this handbook you can turn out *from 30% to 50% more motor service work* . . . without adding to the shop overhead or to the floor space.

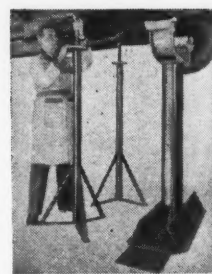
Photos Like These Show Typical Time Savings on Everyday Service Operations



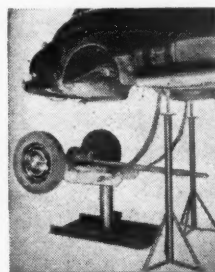
TIME SAVING: **47%**
Remove, replace muffler



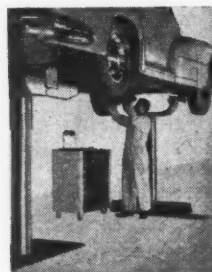
TIME SAVING: **30%**
Servicing shock absorbers



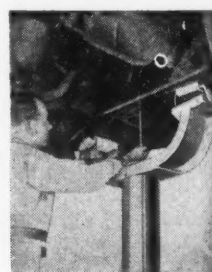
TIME SAVING: **31%**
Overhaul front suspension



TIME SAVING: **27%**
Rear axle assembly



TIME SAVING: **37%**
Hydra-Matic transmission



TIME SAVING: **30%**
Removing piston assembly

. . . and these are just a few of the services reviewed in this Manual. Time studies show how use of a lift simplifies and speeds every service operation.

ORDER YOUR COPY of "Lift Profits" Manual today! Learn what you can **REALLY** do to lift profits. Simply fill out and mail the handy Order Form at the left. Send **ONLY ONE DOLLAR** for each Manual, postpaid.

GLOBE HOIST COMPANY

Des Moines, Iowa • Philadelphia, Pa.

America's Most Complete Line of Hydraulic and Electric Lifts
. . . Auto, Bus, Truck, Industrial

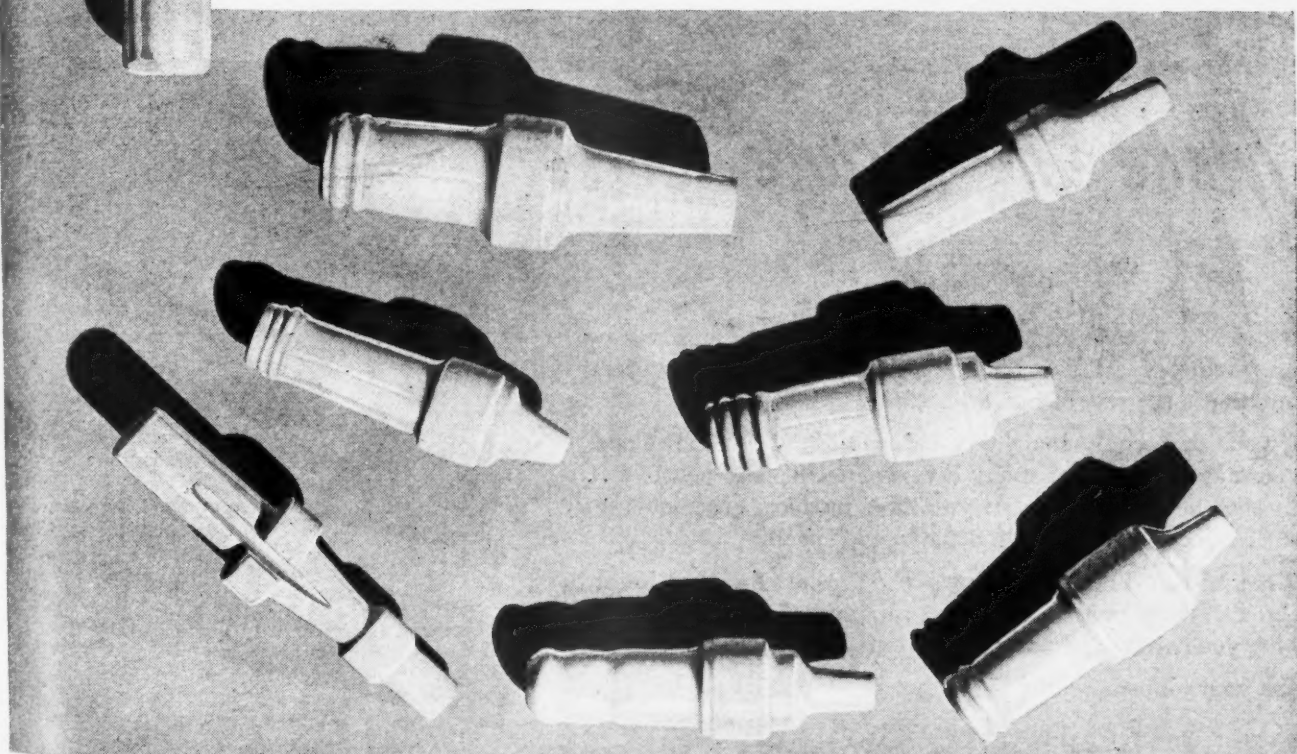
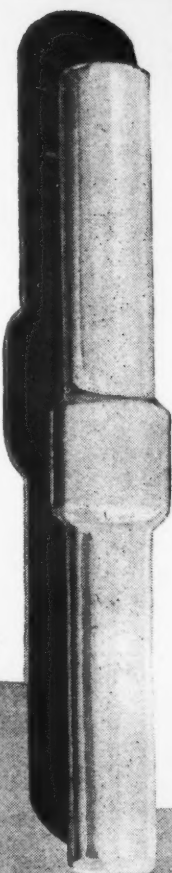
FRENCHTOWN INSULATORS

*Are Used By More Spark Plug
Manufacturers Than Any Other*

Here Are Some of Those Who Recognize Frenchtown Quality

American Eagle Spark Plug Co.
Auburn Spark Plug Co.
Bowers Battery & Spark Plug Co.
Duall Spark Plug Co.
F. A. Luthy Co.
Fan Flame Spark Plug Co., Inc.
G. M. Co. Manufacturing, Inc.
Igna Sparking Plugs, Ltd.
Jordan Electrical Mfg. Co.
Leonard Spark Plug Co., Inc.
Motoking Spark Plug Co.
Price Battery Corporation

Powercraft Corporation
Prosper C Spark Plug Co.
Ra-loy Spark Plug Co.
Superior Spark Plug Co.
Super Leader Spark Plug Co., Inc.
Superlife Products Co.
The Actus Corporation
The M & G Spark Plug Company
The Partlow Corporation
The Reflex Spark Plug Co.
Thomas A. Edison, Inc.
Trojan Products Company
Tungsten Spark Plug Mfg. Co.



FRENCHTOWN PORCELAIN CO.

Sales Office, 8 Muirhead Ave., Trenton, N. J.

Factory, Frenchtown, N. J.



Make the Picture Perfect

Make no mistake about it . . . *people judge by appearances*. Maybe they are wrong in many instances, but that's the way of human nature.

If your shop equipment looks old, run-down, ill conditioned, you may be sure that many car owners will pass you by . . . go elsewhere for repairs. If you have modern, good looking, efficient equipment, they'll drive in and spend.

What to do? There's no puzzle about that. AEP will fit in perfectly with your modernizing program . . . help you buy what you need . . . pay as you go . . . and grow.

Ask your jobber about it.

THE BEST EQUIPPED SHOP
GETS THE PROFITABLE BUSINESS

BUY . . . AND FINANCE . . .
THROUGH YOUR JOBBER

ONE CONTRACT . . . ONE COST
. . . INSURANCE INCLUDED



If you don't know about A E P . . . ask your jobber.

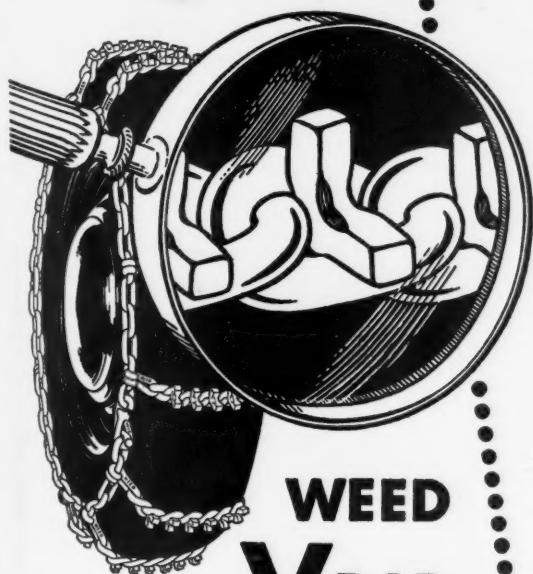
COMMERCIAL CREDIT CORPORATION

A Subsidiary of Commercial Credit Company, Baltimore

MORE THAN 300 OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

WEED TIRE CHAINS

Order them Now!



WEED V BAR TIRE CHAINS

WEED's newest development for safer winter driving now available for passenger cars and light trucks. Really a new idea in traction.

Two-Way Grip—Right and Left
288 Gripping Points
Heel and Toe Action
Start Easier • Stop Shorter
Hold Straighter • Wear Longer

LOOK AHEAD—Tire chain season will be here before you know it. Your customers don't think of chains till they actually need them. But you must be ready in advance. Here's how you cash in on the WEED three-way Profit Plan:

1. REPAIRS—WEED Chain repair tools make an easy job of it.

2. SERVICE—Putting on and taking off chains is a standard service job. Using the new WEED Zip-On No. 929 Tire Chain Applier makes the job easier.

3. SALES—Supplies of genuine WEED Chains are limited. But every pair helps build profit and customer good-will. Sell WEED Zip-On No. 929 Tire Chain Appliers to owners of those new car models that shut in the rear wheels.

ACT NOW. Order your share of chains. Ask your customers to buy early. And don't forget WEED Cross Chains, WEED Chain Repair Tools, WEED Zip-On Chain Appliers and other needed chain repair equipment.

**GET IN TOUCH WITH YOUR
WEED JOBBER SALESMAN TODAY**

ACCO

York, Pa., Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

**AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE**

TRADE
MARK



In Business for Your Safety

PICTURE QUIZ:

Which of these five people gives the right reason for buying U.S. Bonds?

(ANSWER BELOW)



1. Easy to save! "I'm putting my money into U. S. Bonds because it's the *easiest way* for me to save. Under the Payroll Savings Plan, I put aside a regular amount each week for Bonds. So far, I've saved \$500 without missing the money!"



2. Good investment! "Getting back \$4 for every \$3 I invest—the way I will in ten years' time with U. S. Bonds—is my idea of a *good investment*. I know it's safe and sound, too, because it's backed by Uncle Sam. Buy Bonds, I say."



3. Plans for the future! "Ten years from now, the money I'll get for my U.S. Bonds will help to send my kids to college, or buy our family a new home. I think that buying U. S. Bonds is the wisest thing a family man can do."



4. Fights inflation! "I want America to stay economically sound. That's why I'm putting all our extra dollars into U. S. Bonds. It's like buying a share in our country's future prosperity!"



5. Rainyday! "Maybe a rainy day's coming for me. Maybe it isn't. But I am taking no chances. That's why I'm buying all the U. S. Bonds I can through my Payroll Savings Plan."

THE ANSWER

Every one of these people gives the "right" reason—because there's more than one right reason for buying U. S. Bonds.

Whichever way you buy them—through Payroll Savings, or your local bank or post office—U.S. Bonds are the best investment you can make!

Save the easy way..buy your bonds through payroll savings

Contributed by this magazine
in co-operation with the Magazine Publishers of America as a public service.



INLITE'S Complete Line *offers*



One item in the Inlite line is this assortment of 30 Matched Sets to fit 448 models of cars

Bigger Brake Lining Profits

The full range of Inlite Brake Lining is amazingly complete! You can service every vehicle from passenger cars to heavy trucks. Inlite's seventeen composition formulas give correct friction in all cases. Inlite goes on fast. Immediate normal action means no call-backs for readjustments. One item in the Inlite line is an assortment of 30 Matched Sets to fit 448 models of cars. This means you can carry lining to service these popular models with smaller investment, which gives you faster turn-over and bigger profits.

COMPLETE LINE FOR ALL APPLICATIONS

The Inlite line includes: 1. An assortment of 30 matched sets, drilled and cut to exact length for popular passenger cars and trucks. 2. Lining sets, undrilled and ample length, for universal application. 3. Lining sets supplied in bulk packages, drilled and counterbored for brake exchange shops. 4. Bulk segments for bonding. 5. Heavy duty segments for trucks and buses.

**ORIGINAL EQUIPMENT
QUALITY!**

**ONE TOP-GRADE LINE,
NO SECONDS!**

**PRE-SOLD MARKET!
SATISFIED CUSTOMERS!**



A General Motors Product



A UNITED MOTORS LINE
Available Everywhere Through
United Motor Service Distributors

INLITE

Brake Linings

INLAND MANUFACTURING DIVISION, General Motors Corporation, Dayton, Ohio

MOTOR AGE, SEPTEMBER, 1948

189

You know the answer?

Oil and dirt easy to remove from floors?

It's a big YES if you use Oakite Penetrant. It even loosens tenacious ground-in soils, easily . . . wets and penetrates dirt so that follow-up rinsing leaves clean surfaces.

Removing muck and grease from blocks a breeze?

It's YES when you tank-soak them in solution of Oakite Composition No. 24. Its potent, thorough cleaning action easily removes dirt, oil. Leaves surfaces in prime condition for inspection and repair.

Mechanics have a safe footing?

You'll answer that in the affirmative, too, if you sprinkle floors with granular Oakite Composition No. 71. Grains of this absorbent material safetyize and clean floors by sponging up grease, oil and water. Excellent around pits, pumps, racks, benches.

In-place cleaning motors a simple job?

It's YES again if you spray on solution of thorough yet safe Oakite Composition No. 9. It literally dissolves dirt, grease and carbon deposits. Banishes time-wasting brushing methods. Simplifies preventive maintenance.

You know the answer!

Your answer's YES all down the line if you use Oakite cleaners. Because ounce for ounce Oakite cleaners give you more cleaning action. That means you pay less for a gallon of cleaning solution . . . widen your profit margin. Contact your nearby Oakite Man for facts about Oakite cleaners for all your cleaning jobs. Arrange with him for convincing demonstrations. No obligation.

OAKITE PRODUCTS, INC., 24C Thames St., NEW YORK 6, N.Y.
Technical Representatives in Principal Cities of U. S. & Canada

OAKITE

Specialized Industrial Cleaning
MATERIALS • METHODS • SERVICE

GET RID OF GAS FUMES

Solve Your Garage and Shop Ventilation Problem This Simple Inexpensive Way

What you have been waiting for—the final, successful solution to your garage ventilation problem all available in a packaged kit, including motor and blower, ready to install.

- Removes gas fumes at source (exhaust pipes)
- Simple installation—no change or alteration of existing facilities.
- Not in your way—Instantly in use or out of way when you don't need it.
- Saves man-hours and helps keep employees. Mechanics have less sinus, headaches, etc.

National also makes a complete packaged kit for underfloor installation. Literature on request.

Complete packaged kit
F.O.B. Decatur

187.⁵⁰

Write for circular

Illustration shows standard kit with two extra tube outlets.



Write for circular.

THE NATIONAL SYSTEM OF GARAGE VENTILATION

DEPT. 810-D, 330 N. CHURCH ST., DECATUR, ILL.

World's Largest Manufacturer of Exclusive Garage Ventilating Equipment.

MOTOR AGE

—is a publication keyed directly to the needs of the automotive after-market. Built on the requirements of car dealers and repair shops. Edited by Frank P. Tighe. Read it every month.



A Chilton Publication

CHESTNUT AND 56TH STS.
PHILADELPHIA 39, PA.

TRADE MARK *Smash-Proof* MARK

No. 888 CREEPER CASTERS

Precision Powdered
Iron Wheel

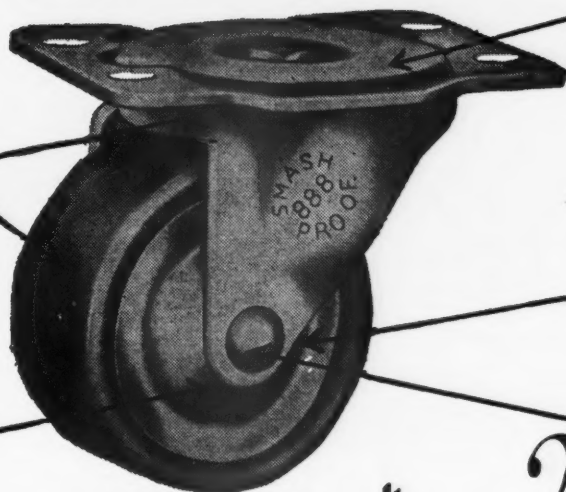
Top Plates
.095 inches Thick

Hardened
Ball Bearings

New Improved
Thread Guard

Heavy Spanner
Bushing

Permanently
Lubricated Axle



*See that
flat wheel?*

There's a
reason for it!

*Mechanics do not sleep on
creepers as some people suppose.*

THEY WORK! Since all of their work
requires pulling, pushing or lifting it is
essential for their creepers to **STAY PUT WHILE**
THEY WORK. That is why we use flat tread wheels;
they offer resistance to turns thus **PREVENTING INJURY**
AND SPEEDING UP THE WORK.

*There are plenty of convenient hand-holds to assist in going and com-
ing from under cars so creeper casters should swivel **HARDER** than other
casters. You can't **WORK** on a roller-coaster.*

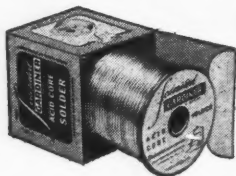
A CREEPER WHICH CAN BE USED IS WORTH A DOZEN LAID UP FOR CASTER REPAIRS!

SOLD BY ALL LEADING AUTOMOTIVE JOBBERS

HULBERT MANUFACTURING CO. - - Ashtabula, Ohio

Join with **GARDINER Solder!**

BRAND



Federated Gardiner Brand ACID CORE SOLDER is scientifically alloyed from the purest metals, resulting in a precise composition which will give strong, lasting bonds. For automotive and general work. Comes in 1 lb. & 5 lb. spools.

Federated
METALS DIVISION

AMERICAN SMELTING & REFINING COMPANY
WHITING, INDIANA (CHICAGO)



CHECK SPRING TENSION!

A PERFECT valve grinding job can't give efficient engine performance unless all valve springs function properly. Insure every motor overhaul job by checking spring tension with

RIMAC SPRING TESTER For VALVE and CLUTCH SPRINGS

Used in production and recommended for service work by leading manufacturers of automobile, airplane, truck and tractor motors.

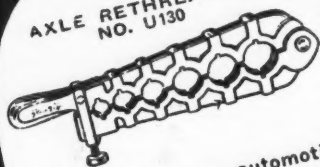
RINCK-McILWAINE, INC.
16 Hudson Street, New York 13



Range up to
250 lbs.
PRICE
\$35

National "Tough Tools for Tough Jobs"

AXLE RETREADER
NO. U130



Made of high grade alloy steel forgings, machined accurately and heat treated for long dependable service. Handles the following SAE Thread Sizes: 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4". Cadmium finish.

SEE your automotive jobber and ask for NATIONAL by name—the name you can trust for "tough tools for tough jobs." If out of stock write or wire

National Machine & Tool Co. Inc.
JACKSON, MICHIGAN, U. S. A.

"Engineered for Results"



BURD
GRAF-FLOX
PISTON RINGS

BURD PISTON RING CO. • ROCKFORD, ILLINOIS

GATKE Grooves give you PLENTY EXTRA

Quick elimination of extraneous matter. Uniform contact. Quiet operation. Non-grabbing action, plus business-winning eye appeal. Ask your GATKE Jobber or write.



GATKE CORPORATION
236 N. La Salle St., Chicago 1

HERE'S PROOF OF HULL COMPASS SALES



BLACHLITE
Illuminated Automobile Compass.
List Price, \$5.95



STREAMLINE
Standard Automobile Compass.
List Price, \$3.95

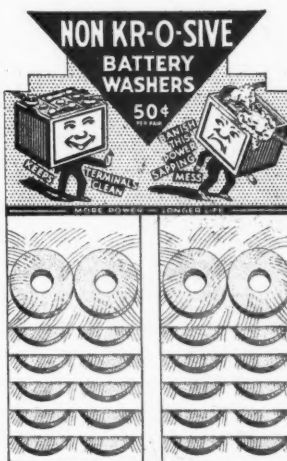


STREAMLINE
MARINE Compass.
List Price, \$2.75

• Wondering whether you will find profitable sales on an initial stock of Hull Compasses? The proof of the pudding is in Hull's long-standing policy of encouraging its thousands of dealers in the automotive, hardware and other fields to order only in amounts based on monthly requirements. Frankly, the practice has paid off for Hull because Hull dealers have always had healthy compass inventories. Nevertheless, a manufacturer has to know that his product enjoys consistent, month-by-month sales before he can count on small, frequent orders making up for fewer but much larger orders. Hull's success with such a policy is your assurance of steady, active sales with Hull Compasses.

Write for Information and Prices

HULL MFG. CO.
P. O. Box 246-MA8, Warren, Ohio



CORROSION causes most BATTERY AND MOTOR TROUBLE

BATTERIES equipped with
"NON KROSSIVE
BATTERY WASHERS"

give
25% to 50% more and
BETTER SERVICE

Get our prices.
RADIATOR SEAL CO.
Council Bluffs, Iowa

Classified Advertisements

IGNITION TESTERS: coil-condenser, attractive instruments. Regular \$42.50, close-out \$12.95. Moneyback guarantee. Box 21, Motor Age, 5601 Chestnut Street, Philadelphia 39, Pa.

LOOSE Insert main bearings to fit into Ford A or B blocks. \$13.00 for upper set. Standard or undersize ready to install. Wellens Auto Supply Co., 417 N. P. Ave., Fargo, North Dakota.

Buy Bonds



"I Make \$30 Profit per Sale—25 Sales per Month with BUELL AIR HORNS"

So reports one dealer in Houston, Texas. These exclusive sales clinchers helped make this record.

• Controlled Volume for city driving. • Five-mile carrying power for emergencies. • Automatic Air Supply as standard equipment. • Permanently tuned sound units. • A guarantee on all Buell equipment.

This is the peak season. Write for the facts on how you can cash in on today's most profitable accessory.

ON THE AIR—WLW CINCINNATI

BUELL MANUFACTURING COMPANY

915 West 49th Place, Chicago 9, Illinois, Dept. 4



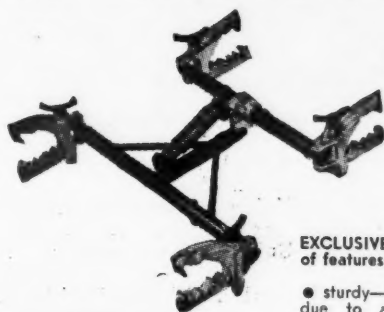
CASH IN on the weather! Let this accurate Taylor Display Thermometer sell oil changes, anti-freeze, tire chains, and other winter service for you! 26" diameter, 24" white dial. Easy to read 100 feet away. Cast aluminum frame, painted

black except for decorative reeds. Ready for immediate delivery, complete with mounting brackets for easy installation. Available in plain or neon models. Write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

Taylor Instruments Mean Accuracy First

Tow 'em **SAFELY** . . . with **ONE** man . . .
use the new 1948 hydraulic

TOW-MASTER!



LIGHT-WEIGHT

4-POINT
SAFETY
GRIP

EXCLUSIVE combination
of features

- sturdy—but lightweight due to aluminum cast jaws and alloy steel tubing
- no wrenches — hooks up in less than 5 minutes
- fits new cars and practically all models now on the road
- safety lock
- hydraulic shock absorber
- universal knuckle for smooth action on curves Pat. Pending

Only TOW-MASTER BUILDS BUSINESS THIS WAY FOR YOU

Show customers why YOU can make a **SAFE** tow . . . why your Tow-Master's exclusive features prevent damage and strain to their cars. They'll call YOU when service jobs are on tap. Protect yourself, too, by towing today's high-priced automobiles **SAFELY**. Four-jaw heavy-duty model, only \$66.75. (Three-jaw \$45.75.) Depend on Tow-Masters!

TOW-MASTER CORP.

Jobbers — Dealers — write for catalog on complete line

Dept. M

1111 N. Clark St.

Chicago 10, Ill.

MOTOR AGE, SEPTEMBER, 1948

IT'S *Cheaper* TO REMOVE
GRIME, GREASE, OIL, CARBON,
DIRT, GASOLINE DYE STAIN,
GUM *with*



YOU SAVE MONEY when you use Bendix* Metalclene for cleaning *all* metal parts. Metalclene has a physical action rather than chemical—"lifting," not dissolving, thus allowing the solution to be used and re-used indefinitely. Merely dip the dirty parts into the cold solution for a few minutes, then take them out free from all unwanted deposits. Use Metalclene for greater efficiency and economy.

*REG. U. S. PAT. OFF.

BENDIX PRODUCTS DIVISION of
SOUTH BEND 20, INDIANA



Index to Advertisers

This Advertisers' Index is published as a convenience, and not as part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.

AC Spark Plug Div...9-89-109-118
Airtex Automotive Div..... 4
Allen Electric & Equipment Co.181
Aluminum Co. of America.....139
American Associates, Inc.....107
American Chain & Cable Co.....187
American Hammered Piston
RingsBack Cover
Andrews Mfg. Co..... 21
Armstrong-Victor Co.137
Aro Equipment Corp., The.....111
Arrow Safety Device Co.....114
Atlas Press Co..... 96
Auto Ventshade Co.....161
Automotive Mfg. Co., Inc.....180

Barrett Equipment Co.....153
Bean Mfg. Co., John.....182
Bear Mfg. Co.....151
Bearings Co. of Amer..... 78
Behr-Manning Div.166
Bendix Aviation Corp.
Bendix Products Div.....193
Skinner Purifiers168
Blackhawk Mfg. Company..... 24
Bostrom Mfg. Co.....121
Bowes Seal Fast Corp.....130
Buell Manufacturing Co.....193
Burd Piston Ring Co.....192

Cal-Van Machine Products, Inc.182
Central Tool Co., The.....172
Champion Spark Plug Company
16-17
Chevrolet Motor Div.....148-149
Choldun Mfg. Corp.....177
Chrysler Corporation 10
Chrysler Corp. (Parts Div.)...131
Classified Advertisements192
Cole-Hersee Co.176
Collier's122-123
Commercial Credit Corp.....186
Commercial Solvents Corp.....120
Crescent Company, Inc., The... 29
Crosley Div., Avco Mfg. Corp..141
Crosley Motors, Inc. 98

Dake Engine Co.....174
Davison Chemical Corp., The..182
Delco Products Div.....145
Delco-Remy Division 5
De Luxe Products Corp.....147
De Soto Division of Chrysler
Corp.104
DeVilbiss Co., The.....133
Doan Mfg. Corp..... 90
Dole Valve Co.....170
du Pont de Nemours Co., Inc.,
E. I.126-127
Durkee-Atwood Co.164
Duro Metal Products Co.....171

Edison, Inc., Thomas A..... 75
Electric Auto-Lite Co.....6-7-71
Electric Storage Battery Co..115
Ethyl Corporation 11
Everhot Products Co.....144

Farm Journal 25
Federal Bearings Co., Inc..... 72
Federal-Mogul Service 97
Federated Metals Div.....192
Fitzgerald Mfg. Company.....180
Ford Motor Company..... 77
Fram Corp.129
Frenchtown Porcelain Co.....185

Gatke Corporation192
General Electric Co.....26-27
Globe-Hoist Co.184
Globe-Union, Inc.182
Grote Mfg. Co., Inc.....180
Grover Products Co.....180

Hansen Mfg. Co., The..... 13
Harley-Davidson Motor Co....110
Harrison Radiator Div..... 8
Hastings Mfg. Co.....2nd Cover
Hollingshead Corp., R. M.....18-19
Homestead Valve Mfg. Co....140
Hoover Ball & Bearing Co....152
Hope Metal Products, Inc..... 80
Hotel Wolverine182
Hulbert Manufacturing Co....191
Hull Mfg. Co.....192

Imperial Brass Mfg. Co., The...106
Inland Mfg. Div.....189
International Chain & Mfg. Co.135

Johns-Manville Corp.160
Johnson Bronze Co.....124

Kelsey-Hayes Wheel Co.....159
Kester Solder Co..... 30
King Quality 69
Koppers Co., Inc., Piston Ring
Div.Back Cover

Laminated Shim Co., Inc.....176
Libbey-Owens-Ford Glass Co..183
Lincoln Electric Co..... 76
Lincoln Engineering Co.....157
Lion Auto Parts & Mfg. Co....162
Littelfuse, Inc.173
Lynch Corporation (Par Com-
pressor Div.)158
Lyon, Incorporated143

McKay Co., The.....146
McQuay-Norris Mfg. Co..100-101
Magnus Chemical Co.....138
Maremont Automotive Products
Inc. 31
Meiser & Co., G. H.....165
Milwaukee Electric Tool Corp..180
Monmouth Products Co..... 81
Moog Industries, Inc.....180
Moraine Products Div.....179

National Carbon Co., Inc.....14-15
National Machine & Tool Co..192
National Plastic Products Co..103

National System of Garage Ven-
tilation190
New England Auto Products
Corp.136
Niehoff & Co., C. E..... 87

Oakite Products, Inc.....190

P. & D. Mfg. Co., Inc..... 92
Packard Electric Div., General
Motors Corp.163
Pedrick Piston Rings.....182
Pennsylvania Refining Co.....178
Pennzoil Company112
Permatex Co., Inc..... 1
Plomb Tool Company.....178
Pontiac Motor Div.....167
Prest-O-Lite Battery Co.....22-23
Puritan Co., Inc.....182

Radiator Seal Co.....192
Ramsey Corporation ...3rd Cover
Rankin Mfg. Co..... 88
Raybestos Div. 32
Rinck-Mellwaine, Inc.192
Rowland, Inc., Wm. & Harvey.108
Ruger Equipment Co., Inc.....182

Safety & Maintenance Co., Inc. 84
Schrader's Son Div., A..... 74
Sealed Power Corp.....82-83
Service Spring Co.....180
Service Supply Co.....116
Simoniz Company155
Snap-on Tools Corp.....119
Southern Friction Materials Co..182
Speaker Corp., J. W.....117
Standard Motor Products, Inc.. 3
Standard Pressed Steel Co....156
Standard Thomson Corp.....196
Storm-Vulcan, Inc.....142
Studebaker Corp. 67
Susquehanna-Mills, Inc.102

Taylor Instrument Co.....193
Thexton Mfg. Co., Inc.....134
Thompson Products113
Timken Roller Bearing Co., The 20
Toledo Steel Products Co..... 91
Tow-Master Corp.193
Trico Products Corporation... 2

U. S. Axle Co., Inc.....128
United Motors Service.....125
United States Electrical Tool
Co., The195
United States Industrial Chemi-
cals, Inc. 79
United States Treasury.....188

VanDorn Electric Tool Co., The. 93

Wagner Electric Corp..... 73
Walker Manufacturing Co....94-95
Warwick Laboratories Co.....132
Wayne Pump Co., The.....105
Weatherhead Company 99
Wells Mfg. Corp.....154
Whitaker Cable Corp.....169
Wilkening Mfg. Co.....182
Willard Storage Battery Co..85-86
Williams & Co., J. H..... 12
Wiry Joe 29
Witco Chemical Co.....175
Wolf's Head Oil Refining Co... 23

Zecol, Inc.150

UNITED STATES ELECTRICAL TOOLS

*America's Greatest and
Most Complete Line—*

PROVED QUALITY

PROVED ECONOMY

PROVED PERFORMANCE

WHEN industry calls ... these electric tools answer "here" for the innumerable jobs which demand precision-efficiency and instant response. Maximum savings in time, labor and costs ... minimum maintenance and economical prices.

- Drills
- Grinders
- Surfacers
- Polishers
- Sanders
- Tappers
- Hole Saws
- Buffers
- Valve seat grinders
- Valve refinishing shops
- Flexible shaft machines

1/2" "Commander" Drill — Model IC02

Ideal for all-purpose drilling and another "first" in the drill field. Compact design, light weight, perfect balance and slow spindle speed. Excellent for driving wood augers and hole saws.



Model IC02



1/4" Automatic Drill Model 14AU

A practical lightweight drill for the tool kit. Handy for shops and maintenance work. Ball-bearing throughout for long, smooth service. The BEST 1/4" drill in the economy field.

**CONTACT YOUR JOBBER ...
HE CAN SUPPLY YOU**

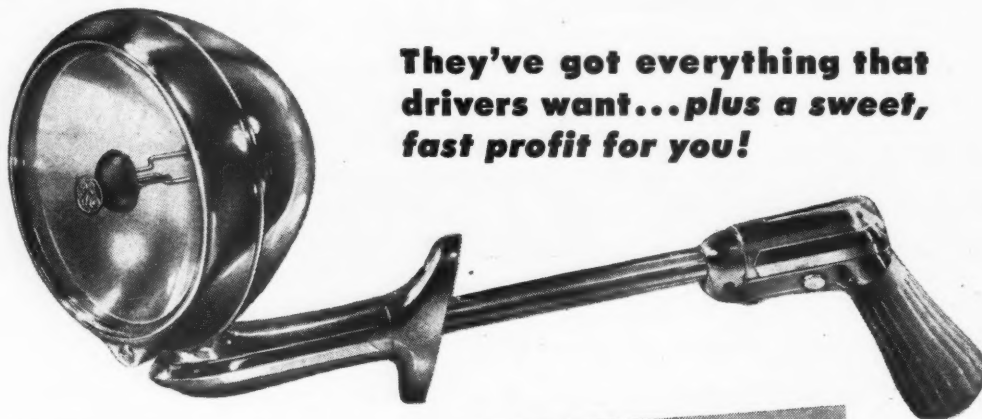
Leading automotive, mill supply, hardware, electrical,
plumbing, machinery and farm implement jobbers carry
United States Electrical Tools IN STOCK.



The UNITED STATES ELECTRICAL TOOL Co.
CINCINNATI, OHIO

Thomson

ACCESSORY LIGHTS FOR EVERY CAR



**They've got everything that
drivers want...plus a sweet,
fast profit for you!**

BRACKETS FOR ALL CARS
Sealed Beam bulbs. All-
weather chrome finish. Easy-
to-operate pistol grip handle.
Fingertip switch. Full 360°
rotation.

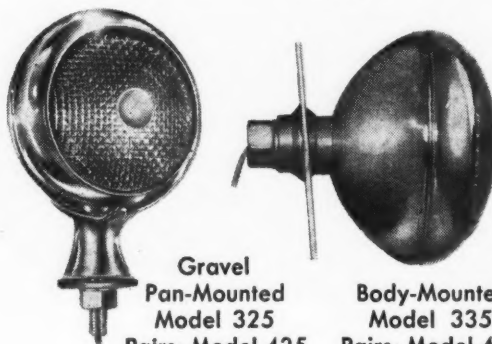
TWO MODELS • TWO SIZES
5-inch Head—Model 15
6-inch Head—Model 32
Matched Pairs—Models
15-P and 32-P

Thomson

Pistol Grip
SPOTLIGHTS

Thomson

BACK-UP LIGHTS



Gravel
Pan-Mounted
Model 325
Pairs: Model 425

Body-Mounted
Model 335
Pairs: Model 435

GET THE THOMSON PROFIT STORY NOW!

You can get Thomson Lights without
delay! Mail the coupon now for cat-
alog sheets, prices and Thomson's
sales-building merchandising plan!

STANDARD-THOMSON CORPORATION
Dayton 2, Ohio, U.S.A.

Standard-Thomson Corporation
216 S. Main St., Dayton 2, Ohio

Please send us full information on profitable Thomson
Accessory Lights. We are ☐ Dealer ☐ Jobber

NAME _____
FIRM _____
ADDRESS _____
CITY _____ ZONE _____
STATE _____

RAMCO
RE-POWERING

METHOD

THE NEW PLUS-PROFIT WAY
TO HANDLE "RING-JOBS"

Shop owners say, "Customers appreciate it when we point out that pistons need stabilization and engines need RE-POWERING, not rings alone. That builds a man's 'REP' as a RE-POWERING Expert—and it sure builds profits." The 4-point Ramco RE-POWERING Method includes (1) Compression (2) Carburetion (3) Ignition (4) Cooling—a complete job at a good profit. It's easy to close RE-POWERING sales with the Ramco 10-Up 10,000-mile or One Year Guarantee. This ironclad guarantee is possible because Ramco 10-Up Rings "Do the Job Right"—right for the car or truck owner, right for you!

Get the profit-power
of Ramco's nationally
advertised RE-POWER-
ING Method

Nationally Advertised in

POST Colliers



1

three

2

4

RAMCO 10^{up}
PISTON RINGS



A FULL-FLEDGED OIL RING... not a spacer!

The cast-iron part of the 10-Up oil ring is a full-fledged piston ring, not just a spacer. Self-flushing; it has slots cut clear through. It is STABILIZED—not held under stiff pressure—by the spring steel backing ring. It presents FOUR oil-bearing surfaces to the cylinder, all under no greater pressure than original equipment.

For 10,000 Miles and Up Call for RAMCO 10-Up Piston Rings... the 10,000 Mile (or one year) Guaranteed Rings for Re-Bore and Re-Ring, Car or Truck
Products of Ramsey Corporation, 3718 Forest Park Blvd., St. Louis 8, Missouri, makers of RAMCO Piston Skirt Stabilizers... Seal-Tite Piston Rings... Oil-
Tite Piston Rings... Spirolax Retaining Rings, Spiro-Seal Grease Seals and Dust Seals... Famous RAMCONizer Machine for reshaping collapsed piston skirts
... Ramco 3-Up Parts Cleaner... Factories: St. Louis and Sullivan, Mo.; Fruitport, Mich.; Toronto 8, Ont., Canada. Copyright 1948 Ramsey Corporation R-2992



*She has
to take
chances*

...YOU CAN PLAY SAFE on Piston Ring Recommendations

Protect yourself against those costly comebacks! Give your customers the benefit of American Hammered performance that means thousands of *extra* miles of new-car performance and economy! Koppers American Hammered Piston Rings are specifically engineered for replacement . . . for every engine condition. They help you do a better job—that means you do a better piston ring business. Take a tip from leading fleet operators, airlines, engine builders, and railroads! *Always install American Hammered Piston Rings!*

Koppers Company, Inc., Piston Ring Division, Box 626, Baltimore 3, Md.



STEEL-EDGE for quick, positive oil control in passenger cars.
POROUS CHROME* for peak performance and the longest known ring life . . . available for bus and truck engines.

IN EVERY SIZE • OF EVERY TYPE • FOR EVERY PURPOSE



American Hammered Piston Rings

*VAN DYKE ROBERT PROCESS